```
FILE 'REGISTRY' ENTERED AT 14:29:40 ON 23 JUN 2010
               EXP HEPARIN
               EXP HEPARIN/CN
L1
             1 S E3
              EXP LEUCINE/CN
L2
             2 S E3
    FILE 'HCAPLUS' ENTERED AT 14:30:18 ON 23 JUN 2010
L3
           109 S L1 AND L2
L4
        856946 S POWDER OR INHALER OR ASTHMA OR PULMONARY OR BRONCHITIS OR (CY
L5
            14 S L3 AND L4
L6
         45532 S L2
L7
          1025 S L4 AND L6
L8
         66856 S INHAL?
           137 S L7 AND L8
L9
      1253967 S FINE OR PARTICLE
L10
          113 S L9 AND L10
L11
            50 S L11 AND (PY<2004 OR AY<2004 OR PRY<2004)
L12
L13
            44 S L12 NOT L5
```

```
=> file reg
COST IN U.S. DOLLARS
```

SINCE FILE TOTAL ENTRY SESSION 0.22 0.22

FULL ESTIMATED COST

FILE 'REGISTRY' ENTERED AT 14:29:40 ON 23 JUN 2010 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2010 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 JUN 2010 HIGHEST RN 1228216-77-0 DICTIONARY FILE UPDATES: 22 JUN 2010 HIGHEST RN 1228216-77-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 8, 2010.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

```
=> exp heparin
                  HEPAREMIN/BI
           1
E1
             1
E2
                   HEPAREXINE/BI
EЗ
          1510 --> HEPARIN/BI
            3 HEPARINA/BI
1 HEPARINADSORBER/BI
E4
E5
           11 HEPARINAMIDE/BI
28 HEPARINASE/BI
14 HEPARINATE/BI
2 HEPARINE/BI
Ε6
Ε7
E8
E9
            1 HEPARINIC/BI
1 HEPARINIZED/BI
E10
E11
E12
            2
                   HEPARINOID/BI
=> exp heparin/cn
E1
       1 HEPAREMIN/CN
                   HEPAREXINE/CN
E_2
              1
             1 --> HEPARIN/CN
Е3
                HEPARIN (PHYSARUM POLYCEPHALUM STRAIN LU-353)/CN
             1
E4
E5
                   HEPARIN 3-PYRIDYLMETHYL ESTER/CN
             1
             1
                  HEPARIN 4-HYDROXY-N, N-DIMETHYLBUTYRAMIDE/CN
Ε6
                  HEPARIN ACETATE/CN
             1
E7
             1
                   HEPARIN ACETYLGLUCOSAMINE DEACETYLASE/CN
Ε8
                  HEPARIN AFFIN REGULATORY PEPTIDE/CN
HEPARIN BENZETHONIUM SALT/CN
             1
E9
             1
E10
E11
              1
                   HEPARIN BENZYL ESTER/CN
E12
              1
                   HEPARIN BENZYL ESTER SODIUM SALT/CN
=> s e3
L1
              1 HEPARIN/CN
```

```
=> exp leucine/cn
E1
            1
                  LEUCINANILIDE/CN
                  LEUCINANILIDE, N-PHOSPHONO-L-ALANYL-, BIS(P-NITROBENZYL) EST
E.2
            1
                  ER, L-/CN
            2 --> LEUCINE/CN
E3
E4
                 LEUCINE B-NAPHTHYLAMIDASE/CN
            1
E5
            1
                 LEUCINE 2,2,2-TRICHLOROETHYL ESTER/CN
Ε6
           1
                LEUCINE 2,3-AMINOMUTASE/CN
Ε7
           1
                LEUCINE 2-BROMOETHYL ESTER HYDROCHLORIDE/CN
           1
                LEUCINE 2-NAPHTHYLAMIDASE/CN
                LEUCINE 2-NAPHTHYLAMIDE/CN
           1
                LEUCINE 2-OCTYLDODECYL ESTER/CN
E10
           1
E11
           1
                LEUCINE 2-OXOGLUTARATE TRANSAMINASE/CN
E12
           1
                 LEUCINE 3-PHENYL-2-THIOHYDANTOIN/CN
=> s e3
            2 LEUCINE/CN
L2
=> file hcaplus
COST IN U.S. DOLLARS
                                               SINCE FILE
                                                               TOTAL
                                                    ENTRY
                                                             SESSION
FULL ESTIMATED COST
                                                    11.49
                                                               11.71
```

FILE 'HCAPLUS' ENTERED AT 14:30:18 ON 23 JUN 2010 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2010 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 23 Jun 2010 VOL 152 ISS 26 FILE LAST UPDATED: 22 Jun 2010 (20100622/ED) REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2010 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2010

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2010.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s powder or inhaler or asthma or pulmonary or bronchitis or (cystic fibrosis) or bronchiectasis

```
681738 POWDER
          2972 INHALER
         49121 ASTHMA
        120899 PULMONARY
          9073 BRONCHITIS
         21381 CYSTIC
         54922 FIBROSIS
         16173 CYSTIC FIBROSIS
                 (CYSTIC (W) FIBROSIS)
          1050 BRONCHIECTASIS
L4
        856946 POWDER OR INHALER OR ASTHMA OR PULMONARY OR BRONCHITIS OR (CYSTI
               C FIBROSIS) OR BRONCHIECTASIS
=> s 13 and 14
           14 L3 AND L4
L5
=> d 15 1-14 ti abs bib
     ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
1.5
     Development of inhalable formulations of anti-inflammatory drugs to
ТΤ
     potentially treat smoke inhalation injury in burn victims
AΒ
     Injury arising from smoke inhalation is a significant mortality risk in
     severe burned patients. Inflammatory processes are major contributors to
     the development of respiratory insufficiency owing to pulmonary
     edema, formation of airway fibrin clots and hypoxemia. Anti-inflammatory
     and anti-coagulant drugs such as heparin and pentoxifylline are currently
     systemically administered for the treatment of smoke inhalation. Delivery
     of these drugs in the form of inhalable particles could be an effective
     manner to achieve rapid targeted action for acceleration of the treatment.
     The study developed and characterized a series of spray-dried heparin and
     pentoxifylline dry powder formulations suitable for inhalation
     administration. Drug particles were co-spray-dried with leucine in
     varying ratios. Particle size anal. confirmed all powders (except 2%,
     weight/weight, pentoxifylline with 1%, weight/weight, leucine in spray-drying
feed
     solution) had particle size in the optimal range (\leq 5~\mu m) for deep
     lung drug deposition. Leucine supplementation dramatically altered
     heparin surface topog, while pentoxifylline formulations were a mixture of
     elongated needles interspersed with wrinkly particles. Addition of leucine
     improved fine particle fraction of heparin and pentoxifylline. The study
     indicated manufacture of inhalable heparin and pentoxifylline was feasible and
     can potentially be an attractive delivery alternative to the more
     conventional systemic delivery route.
ΑN
     2010:287685 HCAPLUS <<LOGINID::20100623>>
     152:534349
DN
     Development of inhalable formulations of anti-inflammatory drugs to
ΤI
     potentially treat smoke inhalation injury in burn victims
     Thai, A.; Xiao, J.; Ammit, A. J.; Rohanizadeh, R.
ΑU
     Advanced Drug Delivery Group, Faculty of Pharmacy (A15), University of
CS
     Sydney, Sydney, NSW, 2006, Australia
     International Journal of Pharmaceutics (2010), 389(1-2), 41-52
SO
     CODEN: IJPHDE; ISSN: 0378-5173
PΒ
     Elsevier B.V.
DT
    Journal
LA
     English
RE.CNT 43
              THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L_5
     ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
     Liposomal dispersion and dry powder formulations comprising
```

oligonucleotides having improved downstream processing properties

ΤТ

```
A pharmaceutical composition comprises: (A) one or more drug substances; (B) a
AΒ
     lipid; (C) a co-lipid; and (D) a flowability enhancer, wherein the
     co-lipid and the flowability enhancer together form a liposomal dispersion
     that comprises lipid vesicles that encapsulate the one or more drug
     substances. The pharmaceutical composition is optionally dried to form a dry
     powder formulation that is free-flowing and preferably suitable
     for inhalation or nasal administration. A composition contains oligonucleotide
     A, which is an immunomodulatory oligonucleotide or immunomer with TLR9
     agonist activity that is useful in the treatment of allergic inflammatory
     diseases, hydrogenated phosphatidylcholine, pegylated phosphatidylcholine,
     Ca phosphate, lactic acid, mannitol, bovine serum albumin and phosphate
     buffer salt.
ΑN
     2009:260561 HCAPLUS <<LOGINID::20100623>>
DN
     150:290754
     Liposomal dispersion and dry powder formulations comprising
ТΤ
     oligonucleotides having improved downstream processing properties
     Eskandar, Fadi
ΙN
    Novartis A.-G., Switz.
PA
     PCT Int. Appl., 62pp.
SO
     CODEN: PIXXD2
DT
     Patent
LA
    English
FAN.CNT 1
                              DATE
     PATENT NO.
                       KIND
                                          APPLICATION NO.
```

```
____
                              _____
                                          _____
                             20090305
    WO 2009027337
                        A1
                                         WO 2008-EP61018
                                                                20080822
PΙ
        W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
            CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,
            FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
            KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
            ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
            PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,
            TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
        RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
            IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
            TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
            TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
            AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRAI EP 2007-114981
                        Α
                               20070824
    EP 2007-123163
                               20071213
```

- RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L5 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
 TI Cospray-dried unfractionated heparin with L-leucine as a dry
 powder inhaler mucolytic for cystic
 fibrosis therapy
- AB Accumulation of inspissated secretions that are difficult to clear and congest the airways is a feature of lung disease in patients with cystic fibrosis (CF). These secretions restrict airflow, harbor infection and limit the delivery of inhaled drugs including gene therapy vectors to the underlying target cells. Unfractionated heparin (UFH) has mucolytic properties suggesting that it may be a useful therapeutic agent for lung disease in these patients. For the pulmonary delivery of UFH to patients with CF, the dry powder inhaler has potential advantages over systems using nebulized suspensions. However, spray-dried particles in the appropriate size range (1-5 m) may absorb atmospheric moisture, causing aggregation. UFH was cospray-dried with L-leucine (1%) to produce particles that are less cohesive than UFH alone and show good aerosolization performance. Rheol. anal. showed that spray-dried UFH and

UFH cospray-dried with L-leucine significantly reduce the elasticity and yield stress of CF sputum. The superior phys. properties of UFH/L-leucine indicate this is the preferred formulation for development as an inhaled mucolvtic.

- AN 2008:1343290 HCAPLUS <<LOGINID::20100623>>
- DN 150:83600
- TI Cospray-dried unfractionated heparin with L-leucine as a dry powder inhaler mucolytic for cystic fibrosis therapy
- AU Shur, Jagdeep; Nevell, Thomas G.; Ewen, Richard J.; Price, Robert; Smith, Andrew; Barbu, Eugen; Conway, Joy H.; Carroll, Mary P.; Shute, Janis K.; Smith, James R.
- CS School of Pharmacy and Biomedical Sciences, Institute of Biomedical and Biomolecular Science, University of Portsmouth, Portsmouth, PO1 2DT, UK
- SO Journal of Pharmaceutical Sciences (2008), 97(11), 4857-4868 CODEN: JPMSAE; ISSN: 0022-3549
- PB Wiley-Liss, Inc.
- DT Journal
- LA English
- OSC.G 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
 RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L5 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Inhaler devices and bespoke pharmaceutical compositions
- AB The present invention relates to inhaler devices and bespoke pharmaceutical dry powder composition to be dispensed using such inhaler devices for pulmonary administration. In particular, the present invention relates to the provision of passive inhaler devices and dry powder compns. which are specifically formulated and prepared to be efficiently dispensed by such devices to reproducibly achieve a high delivered dose of the pharmaceutically active agent. Thus, blends containing 5% or 10% budesonide and magnesium stearate were obtained by mechanofusion carried out for 60 min at approx. 4000 rpm, resulting in a high aerosolization efficiency.
- AN 2008:555538 HCAPLUS <<LOGINID::20100623>>
- DN 148:523645
- TI Inhaler devices and bespoke pharmaceutical compositions
- IN Morton, David
- PA Vectura Group PLC, UK
- SO PCT Int. Appl., 113pp.
 - CODEN: PIXXD2
- DT Patent
- LA English
- FAN.CNT 1

	PAT	ENT I	. O <i>V</i>			KINI	O	DATE			APPL	ICAT	ION I	NO.		D	ATE	
ΡI		2008				A2 A3		2008		1	WO 2	007-	GB50	674		2	0071	105
		₩:	AE, CH, GB, KM, MG, PT, TR, AT, IS, BJ,	AG, CN, GD, KN, MK, RO, TT, BE, IT, CF,	CO, GE, KP, MN, RS, TZ, BG, LT, CG,	CR, GH, KR, MW, RU, UA, CH, LU, CI,	CU, GM, KZ, MX, SC, UG, CY, LV, CM,	AU, CZ, GT, LA, MY, SD, US, CZ, MC, GA,	DE, HN, LC, MZ, SE, UZ, DE, MT, GN,	DK, HR, LK, NA, SG, VC, DK, NL, GQ,	DM, HU, LR, NG, SK, VN, EE, PL, GW,	DO, ID, LS, NI, SL, ZA, ES, PT, ML,	DZ, IL, LT, NO, SM, ZM, FI, RO, MR,	EC, IN, LU, NZ, SV, ZW FR, SE, NE,	EE, IS, LY, OM, SY, GB, SI, SN,	EG, JP, MA, PG, TJ, GR, SK, TD,	ES, KE, MD, PH, TM, HU, TR,	FI, KG, ME, PL, TN, IE, BF, BW,
			BY,	KG,	KΖ,	MD,	RU,	ΤJ,	TM,	AP,	EA,	EP,	OA					

EP 2086523 A2 20090812 EP 2007-824886 20071105
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
IS, IT, LI, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR
PRAI GB 2006-21957 A 20061103
WO 2007-GB50674 W 20071105
OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

- L5 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Aerodynamically light porous dry powder inhaler formulations for targeted pulmonary deposition
- AΒ ALPDPI formulations having targeted and enhanced pulmonary deposition with prolong residence time, method of preparation and administration thereof are provided for the prophylaxis/treatment/diagnosis of various pulmonary and systemic disorders. In a preferred embodiment, the ALPDPI formulations are made of a biodegradable, biocompatible material/s and have a tap d. less than 0.4 g/cm3, a geometric diameter between 5 m and 30m. The ALPDPI formulations are comprising of bioactive agent encapsulated or complexed or micro or nanosize in the form of or within vesicles/particles such as liposomes, lipid complexes, solid lipid microparticles, solid lipid nanoparticles, solid lipid complexes, polymeric microparticles or nanoparticles bioactive agent particles such as microparticles or nanoparticles or nanocrystals or nanosuspension or combination thereof which are dispersed in additive materials solution or dispersion before processing such as carbohydrates/polyols/hydrolyzed gelatin with or without amino acid or a mixture of amino acid/s, or surfactant/s such as natural/synthetic phospholipid/s, tween/s, span/s, poloxamer/s, protease inhibitors and permeation enhancers etc., alone or in combinations thereof. The ALPDPI formulations comprising of vesicles/particles offers advantage of altering favorably the pharmacokinetic profile of the bioactive agent/s which helps in effective management of pulmonary and systemic disorders. The ALPDPI formulations of bioactive agent/s may be effectively aerosolized alone or co-administered with coarse carrier for administration having enhanced FPF/respirable fraction to the specific sites of lungs in the effective prophylaxis/treatment/diagnosis of pulmonary or systemic disorders by using a high/medium/low resistance device.
- AN 2007:393843 HCAPLUS <<LOGINID::20100623>>
- DN 148:85834
- TI Aerodynamically light porous dry powder inhaler formulations for targeted pulmonary deposition
- IN Ambikanandan, Misra; Bhupal, Chougule Mahavir; Ganesh, S.; Kumar, Padhi Bijay
- PA India
- SO Indian Pat. Appl., 30pp.

CODEN: INXXBQ

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ΡI	IN 2006MU00953	А	20060630	IN 2006-MU953	20060615
PRAI	IN 2006-MU953		20060615		

- L5 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Dry powder inhaler formulations comprising surface-modified particles with anti-adherent additives
- AB The present invention is concerned with a refinement of the processing of particles that are to form a dry powder formulation which is to be administered to the lung using a dry powder inhaler (DPI) device. In particular, the present invention provides the

processing of particles of active material, e.g., steroids, bronchodilators, $\beta2$ -agonists, antimuscarinics, antihistamines, anti-inflammatory agents, etc., and particles of carrier material in the presence of additive material to provide a powder composition which exhibits excellent powder properties and which is economical to produce. Thus, a blend of micronized budesonide 5%, magnesium stearate (force control agent) 6%, and Sorbolac 400 89% was prepared by Mechanofusion at approx. 4000 rpm for 60 min or in a conventional food-processor style bladed mixer, with 2 parallel blades at 2000 rpm for 20 min. The blend obtained in the food-processor mixer gave lower fine particle fractions (FPFs), when compared to that of the mechanofused blend.

AN 2006:513206 HCAPLUS <<LOGINID::20100623>>

DN 145:14730

TI Dry powder inhaler formulations comprising surface-modified particles with anti-adherent additives

IN Morton, David

PA Vectura Limited, UK

SO PCT Int. Appl., 63 pp. CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

RE.CNT 7

		[ENT]	NO.			KIN:	D	DATE			APPL	ICAT	ION	NO.		D.	ATE	
I		2006															 0051	123
		W:	ΑE,	AG,	AL,	ΑM,	AT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
			CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FΙ,	GB,	GD,
			GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KM,	KN,	KP,	KR,
			KΖ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,
			MZ,	NA,	NG,	NΙ,	NO,	NZ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,
			SG,	SK,	SL,	SM,	SY,	TJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UΖ,	VC,
			VN,	YU,	ZA,	ZM,	ZW											
		RW:	AT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FI,	FR,	GB,	GR,	HU,	IE,
			IS,	ΙΤ,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ВJ,
			CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML,	MR,	ΝE,	SN,	TD,	ΤG,	BW,	GH,
			GM,	ΚE,	LS,	MW,	MZ	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	ΑM,	AZ,	BY,
			KG,	KΖ,	MD,	RU,	ΤJ,	TM										
	CA	2589	514			A1		2006	0601		CA 2	005-	2589	514		2	0051	123
	ΕP	1814									EP 2	005-	8088	42		2	0051	123
	ΕP	1814						2010										
		R:						CZ,										ΙE,
			IS,					LV,										
	CN	1011	0697	5		А		2008	0116		CN 2	005-	8004	7073		2		
	JΡ	2008	5203	07		Τ		2008	0619		JP 2	007-	5421	31		2	0051	
	ΑT	4563	63			Τ		2010	0215		AT 2	005-	8088	42		2	0051	123
	EΡ	2008 4563 2174	653			A1		2010	0414		EP 2	010-	1515	76		2	0051	
		R:	ΑT,	BE,	ВG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FΙ,	FR,	GB,	GR,	HU,	IE,
								LV,										
		1814						2010										
	_	2340				_					-							_
		2007																
		2008									US 2	007-	7913	85		2	0070	705
ΑI		2004		58		Α		2004	1123									
		2005				A3		2005	1123									
		2005						2005										
		ENT H																
		2						REC							,	3 CI	TING	S)

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

The present invention is directed to novel pharmaceutical compns. comprising nano- and micro-particulate formulations of poorly water soluble tubulin inhibitors (I; R1 = H, alkyl, alkylaryl, acyl, aryl; R2 = H, alkyl, acyl, aryl, alkoxycarbonyl, aryloxycarbonyl, cycloalkoxycarbonyl, etc.; R3-6 = H, alkyl, halogen; A,B,C,D = C, N; X = H, OH, halogen, alkyl, cycloalkyl, alkenyl, cycloalkenyl, acyl, carboxy, alkoxy, etc.). A tubulin inhibitor is preferably of the indole chemical class, N-substituted indol-3-glyoxyamides, and more preferably N-(pyridin-4-yl)-[1-(4-chlorobenzyl)-indol-3-yl]glyoxylic acid amide (D 24851, Indibulin). Methods of making and using such compns. for the treatment of anti-tumor agent resistant cancers and other diseases are also described. For example, a suspension of D-24851 was prepared by mixing an aqueous surfactant solution containing 0.1% sodium deoxycholate, 2.2% glycerin,

and 0.142% dibasic sodium phosphate with a solution of D-24851 and Poloxamer 188 in lactic acid. The total suspension weight was 2000 g, with a drug concentration of approx. 1%. The suspension was homogenized, lactic acid was removed and the suspension was homogenized again to give a nanosuspension with the mean particle size of approx. 325 nm.

AN 2006:470314 HCAPLUS <<LOGINID::20100623>>

DN 144:495330

TI Nanoparticulate compositions of tubulin inhibitors for treatment of resistant cancers and other diseases

IN Papadopoulos, Pavlos; Doty, Mark; Kipp, James E.; Roessler, Berthold

PA Baxter International Inc., USA; Baxter Healthcare S.A.; Raab, Gerhard

SO PCT Int. Appl., 79 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT	NO.			KIN	D	DATE		1	APPL	ICAT	ION 1	NO.		D	ATE	
WO 2006	 0527	 12		A1	_	2006	0518	1	WO 2	005-	US39	922		2	0051	103
W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
	CN,	CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FΙ,	GB,	GD,
	GE,	GH,	GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	ΚM,	KN,	ΚΡ,	KR,
	KΖ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	LY,	MA,	MD,	MG,	MK,	MN,	MW,	MX,
	MZ,	NA,	NG,	NΙ,	NO,	NΖ,	OM,	PG,	PH,	PL,	PT,	RO,	RU,	SC,	SD,	SE,
	SG,	SK,	SL,	SM,	SY,	ТJ,	TM,	TN,	TR,	TT,	TZ,	UA,	UG,	US,	UZ,	VC,
	VN,	YU,	ZA,	ZM,	ZW											
RW:	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	FΙ,	FR,	GB,	GR,	HU,	IE,
	IS,	ΙT,	LT,	LU,	LV,	MC,	NL,	PL,	PT,	RO,	SE,	SI,	SK,	TR,	BF,	ΒJ,
	CF,	CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	$\mathrm{ML}_{{}_{\!{}^{\prime}}}$	MR,	ΝE,	SN,	TD,	ΤG,	BW,	GH,
	GM,	KE,	LS,	MW,	MZ,	NΑ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	ΑM,	ΑZ,	BY,
	WO 2006 W:	W: AE, CN, GE, KZ, MZ, SG, VN, RW: AT, IS, CF,	WO 2006052712 W: AE, AG, CN, CO, GE, GH, KZ, LC, MZ, NA, SG, SK, VN, YU, RW: AT, BE, IS, IT, CF, CG,	WO 2006052712 W: AE, AG, AL, CN, CO, CR, GE, GH, GM, KZ, LC, LK, MZ, NA, NG, SG, SK, SL, VN, YU, ZA, RW: AT, BE, BG, IS, IT, LT, CF, CG, CI,	WO 2006052712 A1 W: AE, AG, AL, AM, CN, CO, CR, CU, GE, GH, GM, HR, KZ, LC, LK, LR, MZ, NA, NG, NI, SG, SK, SL, SM, VN, YU, ZA, ZM, RW: AT, BE, BG, CH, IS, IT, LT, LU, CF, CG, CI, CM,	WO 2006052712 A1 W: AE, AG, AL, AM, AT, CN, CO, CR, CU, CZ, GE, GH, GM, HR, HU, KZ, LC, LK, LR, LS, MZ, NA, NG, NI, NO, SG, SK, SL, SM, SY, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, IS, IT, LT, LU, LV, CF, CG, CI, CM, GA,	WO 2006052712 A1 2006 W: AE, AG, AL, AM, AT, AU, CN, CO, CR, CU, CZ, DE, GE, GH, GM, HR, HU, ID, KZ, LC, LK, LR, LS, LT, MZ, NA, NG, NI, NO, NZ, SG, SK, SL, SM, SY, TJ, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, IS, IT, LT, LU, LV, MC, CF, CG, CI, CM, GA, GN,	WO 2006052712 A1 20060518 W: AE, AG, AL, AM, AT, AU, AZ, CN, CO, CR, CU, CZ, DE, DK, GE, GH, GM, HR, HU, ID, IL, KZ, LC, LK, LR, LS, LT, LU, MZ, NA, NG, NI, NO, NZ, OM, SG, SK, SL, SM, SY, TJ, TM, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, IS, IT, LT, LU, LV, MC, NL, CF, CG, CI, CM, GA, GN, GQ,	WO 2006052712 A1 20060518 W: AE, AG, AL, AM, AT, AU, AZ, BA, CN, CO, CR, CU, CZ, DE, DK, DM, GE, GH, GM, HR, HU, ID, IL, IN, KZ, LC, LK, LR, LS, LT, LU, LV, MZ, NA, NG, NI, NO, NZ, OM, PG, SG, SK, SL, SM, SY, TJ, TM, TN, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, IS, IT, LT, LU, LV, MC, NL, PL, CF, CG, CI, CM, GA, GN, GQ, GW,	WO 2006052712	WO 2006052712 A1 20060518 WO 2005-W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,	WO 2006052712 A1 20060518 WO 2005-US399 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,	WO 2006052712	WO 2006052712 A1 20060518 WO 2005-US39922 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,	WO 2006052712 A1 20060518 WO 2005-US39922 20 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG,	WO 2006052712 A1 20060518 WO 2005-US39922 20051 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,

```
KG, KZ, MD, RU, TJ, TM
    AU 2005304952 A1
                             20060518
                                      AU 2005-304952
                                                             20051103
    CA 2587276
                       Α1
                             20060518 CA 2005-2587276
                                                             20051103
    US 20060110462
                      A1
                             20060525 US 2005-266518
                                                             20051103
    EP 1809279
                       A1
                             20070725
                                        EP 2005-851355
                                                             20051103
          AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
            IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL,
            BA, HR, MK, YU
                                        CN 2005-80037827
    CN 101090720
                       Α
                             20071219
                                                             20051103
    JP 2008519036
                       Τ
                             20080605
                                       JP 2007-540058
                                                             20051103
    BR 2005017652
                            20081014
                                       BR 2005-17652
                                                             20051103
                      Α
    IN 2007DN03092
                            20070831
                                       IN 2007-DN3092
                      Α
                                                             20070425
    MX 2007005434
                      Α
                            20070710
                                       MX 2007-5434
                                                             20070504
                                       KR 2007-710342
    KR 2007074610
                      A
                            20070712
                                                             20070507
PRAI US 2004-626036P
                      Р
                            20041108
    US 2005-642878P
                      Р
                            20050111
    WO 2005-US39922
                      W
                            20051103
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
   MARPAT 144:495330
```

OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L5 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Pharmaceutical compositions
- AΒ The present invention relates to pharmaceutical compns. which are useful in the treatment of diseases where excess mucus is present in the respiratory tract, such as cystic fibrosis and chronic obstructive pulmonary disease. In particular, the invention relates to pharmaceutical compns. for administration by pulmonary inhalation. Thus, in a first aspect of the present invention, a composition for assisting mucus clearance is provided, the composition comprising one or more mucoactive agents for reducing crosslinking within the mucus; for diluting the mucus; and/or for digesting naked DNA and cell debris within the mucus. Preferably, the composition according to the invention further has the effect of reducing inflammation. In one embodiment of the present invention, the composition comprises one or more mucoactive agents together with an addnl. active agent such as an anti-inflammatory agent. In a particularly preferred embodiment of the present invention, the mucoactive agent for reducing crosslinking is a glycosaminoglycan such as heparin. A further group of mucoactive agents capable of assisting mucus clearance are amino acids. Acetylcysteine (NAC) and the acetylcysteine salt derivative Nacystelyn (or NAL) are also effective mucoactive agents which are suitable for inclusion in the compns. of the present invention.
- AN 2005:259852 HCAPLUS <<LOGINID::20100623>>
- DN 142:329858
- TI Pharmaceutical compositions
- IN Morton, David; Ganderton, David; Staniforth, John; Kamlag, Yorick
- PA Vectura Limited, UK
- SO PCT Int. Appl., 60 pp.
- CODEN: PIXXD2
- DT Patent
- LA English
- FAN.CNT 1

	_																
PAT	TENT	NO.			KIN	D	DATE			APPL	ICAT	ION 1	NO.		D	ATE	
						_									_		
WO	2005	0255	40		A2		2005	0324		WO 2	004-	GB39.	32		2	0040	915
WO	2005	0255	40		А3		2005	0616									
	W:	ΑE,	AG,	AL,	AM,	ΑT,	ΑU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	BZ,	CA,	CH,
					CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	EG,	ES,	FI,	GB,	GD,
	WO	WO 2005	WO 20050255 W: AE,	WO 2005025540 WO 2005025540 W: AE, AG,	WO 2005025540 WO 2005025540 W: AE, AG, AL,	WO 2005025540 A2 WO 2005025540 A3 W: AE, AG, AL, AM,	WO 2005025540 A2 WO 2005025540 A3 W: AE, AG, AL, AM, AT,	WO 2005025540 A2 2005 WO 2005025540 A3 2005 W: AE, AG, AL, AM, AT, AU,	WO 2005025540 A2 20050324 WO 2005025540 A3 20050616 W: AE, AG, AL, AM, AT, AU, AZ,	WO 2005025540 A2 20050324 WO 2005025540 A3 20050616 W: AE, AG, AL, AM, AT, AU, AZ, BA,	WO 2005025540 A2 20050324 WO 2 WO 2005025540 A3 20050616 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB,	WO 2005025540 A2 20050324 WO 2004-0 WO 2005025540 A3 20050616 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG,	WO 2005025540 A2 20050324 WO 2004-GB39 WO 2005025540 A3 20050616 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR,	WO 2005025540 A2 20050324 WO 2004-GB3932 WO 2005025540 A3 20050616 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW,	WO 2005025540 A2 20050324 WO 2004-GB3932 WO 2005025540 A3 20050616 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY,	WO 2005025540 A2 20050324 WO 2004-GB3932 20050616 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ,	WO 2005025540 A2 20050324 WO 2004-GB3932 200409

GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,

```
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
            NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
            TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
            AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
            EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
            SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
            SN, TD, TG
    AU 2004271778
                         Α1
                               20050324
                                          AU 2004-271778
                                                                 20040915
    CA 2538399
                         Α1
                               20050324
                                         CA 2004-2538399
                                                                 20040915
    EP 1663151
                         A2
                               20060607
                                         EP 2004-768478
                                                                 20040915
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR
                                        BR 2004-14425
    BR 2004014425 A
                             20061114
                                                                 20040915
    CN 1874757
                        А
                              20061206
                                          CN 2004-80032679
                                                                 20040915
                        T
    JP 2007505830
                              20070315
                                          JP 2006-525902
                                                                 20040915
                       A1
                                          SG 2008-6902
    SG 146649
                              20081030
                                                                 20040915
    NZ 545550
                        Α
                              20090331
                                         NZ 2004-545550
                                                                 20040915
    RU 2363448
                      C2
A
A
                              20090810
                                         RU 2006-112583
                                                                 20040915
    KR 2006082865
                              20060719
                                          KR 2006-705166
                                                                 20060314
                              20060920
    MX 2006002952
                                          MX 2006-2952
                                                                 20060315
                       A
A
                              20060411
    NO 2006001254
                                           NO 2006-1254
                                                                 20060317
                       A 20070530
A 20070629
A1 20070322
A 20030915
A 20031128
W 20040915
                              20070530
                                           ZA 2006-2748
    ZA 2006002748
                                                                 20060404
    IN 2006CN01269
                                           IN 2006-CN1269
                                                                 20060413
    US 20070065373
                                           US 2006-571184
                                                                 20060717
PRAI GB 2003-21611
    GB 2003-27723
    WO 2004-GB3932
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 7
             THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
L5
    ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
    Methods for preparing pharmaceutical compositions
AΒ
    The present invention relates to improvements in dry powder
    formulations comprising a pharmaceutically active agent for administration
    by inhalation, and in particular to methods of preparing dry powder
    compns. with improved properties. In particular, spray drying processes
    are adapted and adjusted to obtain active particles with higher fine
    particle fractions and fine particle doses. Spray drying 1% heparin from
    10% methanol, ethanol and propan-1-ol resulted in a lowering of fine
    particle fraction from approx. 20% when spray dried from aqueous solvent using
    identical parameters to 2-6% fine particle fraction.
    2005:259847 HCAPLUS <<LOGINID::20100623>>
ΑN
    142:303679
DN
ΤI
    Methods for preparing pharmaceutical compositions
    Morton, David; Kamlag, Yorick
ΙN
    Vectura Limited, UK
PΑ
    PCT Int. Appl., 71 pp.
SO
    CODEN: PIXXD2
DT
    Patent
LA
    English
FAN.CNT 8
    PATENT NO.
                        KIND
                               DATE APPLICATION NO.
                                          _____
    WO 2005025535 A2 20050324 WO 2004-GB3938
                                                                20040915
PΙ
```

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,

```
NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
                                20060607
                                            EP 2004-768484
     EP 1663164
                          Α2
                                                                     20040915
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
     US 20060292081 A1 20061228
                                            US 2006-570902
                                                                     20060619
PRAI GB 2003-21608
                                20030915
                         Α
     GB 2004-9133
                         А
                               20040423
                        W
     WO 2004-GB3938
                                20040915
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
              THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
OSC.G 1
RE.CNT 5
              THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L5
     ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
     Compositions and methods for the pulmonary delivery of
     aerosolized medicaments
AΒ
     According to the subject invention, dispersible dry powder
     pharmaceutical-based compns. are provided, including methods for their
     manufacture and dry powder dispersion devices. A dispersible dry
     powder pharmaceutical-based composition is one having a moisture
     content of less than about 10% by weight (%w) water, usually below about 5%w
     and preferably less than about 3%w; a particle size of about 1.0-5.0 \mu m
     mass median diameter (MMD), usually 1.0-4.0 \mu m MMD, and preferably 1.0-3.0
     μm MMD; a delivered dose of about >30%, usually >40%, preferably >50%,
     and most preferred >60%; and an aerosol particle size distribution of
     about 1.0-5.0~\mu\text{m} mass median aerodynamic diameter (MMAD), usually 1.5-4.5
     \mum MMAD, and preferably 1.5-4.0 \mum MMAD. Such compns. are of
     pharmaceutical grade purity. Examples are provided of zinc insulin,
     parathyroid hormone, interleukin-1 receptor, calcitonin,
     \alpha1-antitrypsin, \beta-interferon, heparin, lipid genetic vector,
     and adenoviral vector formulations for pulmonary delivery.
     Formulations of growth hormones suitable for treatment of short stature or
     renal failure are claimed.
ΑN
     2004:11058 HCAPLUS <<LOGINID::20100623>>
DN
     140:65165
ΤI
     Compositions and methods for the pulmonary delivery of
     aerosolized medicaments
IN
     Platz, Robert M.; Patton, John S.; Foster, Linda; Eljamal, Mohammed
     Nektar Therapeutics, USA
PΑ
     U.S., 12 pp., Cont.-in-part of U.S. 6,231,851.
SO
     CODEN: USXXAM
DT
     Patent
LA
     English
FAN.CNT 21
     PATENT NO.
                        KIND
                                 DATE
                                           APPLICATION NO.
                         ____
                                _____
                                             _____
                                          US 2000-616236
EP 1999-110369
                        B1
     US 6673335
                                20040106
                                                                     20000714
                  A2
B1
     EP 940154
                                19990908
                               20070418
     EP 940154
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE
     EP 1693080 A2 20060823
EP 1693080 A3 20070725
                                            EP 2006-9725
                                20070725
     EP 1693080
                         А3
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC
     AT 359842 T 20070515 AT 1999-110369 19920702
ES 2284226 T3 20071101 ES 1999-110369 19920702
```

```
A 19980728 US 1994-309691
A 20000825 NZ 1995-329747
        US 5785049
                                                                                                 19940921
        NZ 329747
                                                                                                 19950207
                                    A1
                                    A1 20040929
B1 20081210
                                                            EP 2004-76082
        EP 1462096
                                                                                                 19950207
        EP 1462096
             R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE
        EP 2036541 A1 20090318 EP 2008-21259
                                                                                               19950207
             R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE
        TW 576750
                               B 20040221 TW 1995-84101726 19950224
        US 6582728
                                     В1
                                              20030624
                                                              US 1995-423515
                                                                                                19950414
        WO 9531479
                                     A1
                                            19951123 WO 1995-US6008
                                                                                               19950515
             W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI,
                   GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD,
                   MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ,
                   TT, UA
             RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT,
                   LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE,
                   SN, TD, TG
US 6231851
US 20020132787
A1 20020919
US 20020192164
A1 20021219
US 20030053959
A1 20030320
US 6737045
B2 20040518
US 20030086877
A1 20030508
US 20040096400
A1 20040520
US 7521069
B2 20090421
US 20040096401
A1 20040520
US 20050279349
A1 20051222
JP 2006077032
A 20060323
US 20090203576
A1 20090813
PRAI US 1992-910048
B2 19940518
US 1993-44358
B1 19930407
                                                               US 1997-737724
                                                               US 2001-978826
                                                                                                 20011016
                                                               US 2002-141044
                                                                                                 20020507
                                                              US 2002-141028
                                                                                                 20020507
                                                              US 2002-245705
                                                                                                 20020918
                                                             US 2003-612376
                                                                                                 20030701
                                                            US 2003-613078
US 2003-693318
JP 2005-350682
US 2009-396525
                                                                                                 20030701
                                                                                                 20031024
                                                                                                 20051205
                                                                                                20090303
       US 1993-44358 B1 19930407
US 1994-246034 B2 19940518
US 1994-309691 A2 19940921
US 1994-313707 B2 19940927
US 1995-383475 B2 19950201
US 1995-423515 A1 19950414
WO 1995-US6008 W 19950515
US 1997-737724 A2 19970714
US 1991-724915 A 19910702
EP 1992-914592 A3 19920702
EP 1999-110369 A3 19920702
US 1994-207472 A 19940307
US 1994-232849 A1 19940425
EP 1995-909506 A3 19950207
EP 2004-76082 A3 19950207
US 1995-281112 A1 19950207
       NZ 1995-281112
                                   A1
                                             19950207
                                   A1
        US 1995-576885
                                             19951222
        US 1996-668036
                                    A1
                                             19960617
                                    A1
                                             19971126
        US 1997-979024
        US 1999-427075
                                    А3
                                              19991026
        US 1999-427836
                                    A1
                                              19991026
        US 1999-447753
                                     Α1
                                              19991122
        US 2000-561690
                                     A1
                                              20000501
                                    A1
        US 2000-616236
                                              20000714
                              A1
                                           20000714
        US 2002-245706
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
```

OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L5 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Preparation of stable particles in frozen aqueous matrix for pharmaceutical suspensions
- AB The present invention discloses a composition of a stable suspension of a poorly water soluble pharmaceutical agent or cosmetic in the form of particles of the pharmaceutical or cosmetic suspended in a frozen aqueous matrix and method for its preparation. The composition is stable for a prolonged

period of time, preferably 6 mo or longer and is suitable for parenteral, oral, or non-oral routes such as pulmonary (inhalation), ophthalmic, or topical administration. Thus, suspension was obtained from Poloxamer-188 2.2, sodium deoxycholate 0.1, glycerin 2.2, and nabumetone 1%.

- AN 2003:319276 HCAPLUS <<LOGINID::20100623>>
- DN 138:343861
- TI Preparation of stable particles in frozen aqueous matrix for pharmaceutical suspensions
- IN Kipp, James E.; Doty, Mark J.; Rebbeck, Christine L.; Brynjelsen, Sean; Teresa, Konkel Jamie
- PA Baxter International Inc., USA
- SO U.S. Pat. Appl. Publ., 19 pp. CODEN: USXXCO
- DT Patent
- LA English

FAN.CNT 1

r AN.			NO.			KIN	D	DATE			APP:	LICAT	ION 1	NO.		D	ATE	
PI		2003						2003			US :	2002-	2702	67		2	0021	011
		71123									Ω 70 ·	2002-	2462	212		2	0021	010
												2002- 2002-						
	WO																	
		W :										, BG, , EE,						
			•	•		•	•					, EE, , KG,		•			•	
												, MW,						
								•	•			, MW,						
			•		,			YU,	•	•			10,	111,	T 1/1	11/,	11,	14,
		RW.						•		•		, ES,	FT	FR	GB	GR	TE.	тт
		T () (•						SK,				, 50,	,	- 11,	OD,	011,	,	
	ΔII	2002									AII '	2002-	3378	94		21	0021	018
	AII	2002	3378	94		B2		2007	0712	•		2002	33,0	<i>-</i>			0021	010
											EP :	2002-	7737	97		2.1	0021	018
		1435														_		0 = 0
										GB,	GR	, IT,	LI.	LU.	NL.	SE,	MC.	PT.
												, TR,						•
	JР	2005										, 2003–						018
	CN	1750	811			Α		2006	0322		CN :	2002-	8207	92		2	0021	018
	ΑT	4502	50			Τ		2009	1215		AT :	2002-	7737	97		2	0021	018
	ES	4502 2340	261			Т3		2010	0601		ES :	2002-	7737	97		2	0021	018
	IN	20041	DN00	885		Α		2009	1211		IN :	2004-	DN88	5		2	0040	406
	MX	2004	0036	75		Α		2004	0723		MX :	2004-	3675			2	0040	419
	US	2006	0222	710		A1		2006	1005		US :	2006-	4251	22		2	0060	619
		2006				A1		2006			US :	2006-	4251	25		2	0060	619
PRAI	US	2001	-347	548P		P		2001	1019									
	US	2002	-270.	267		Α		2002	1011									
	WO	2002	-US3	3270		W		2002	1018									

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT OSC.G 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS) RE.CNT 306 THERE ARE 306 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
L_5
```

Spray-drying a drug and a hydrophobic amino acid for pharmaceuticals ΤI

According to the subject invention, dispersible dry powder AΒ pharmaceutical-based compns. are provided, including methods for their manufacture and dry powder dispersion devices. A dispersible dry powder pharmaceutical-based composition has a moisture content of <10% water, usually below about 5% and preferably <3%; a particle size of $1.0-5.0 \mu m$ [mass median diameter; (MMD)], usually $1.0-4.0 \mu m$ MMD, and preferably $1.0-3.0 \mu m$ MMD; a delivered dose of >60%; and an aerosol particle size distribution of $1.0-45.0~\mu m$ mass median aerodynamic diameter Such compns. are of pharmaceutical grade purity. A 26.7% human calcitonin formulation was achieved by combining 1.9 mg human calcitonin/ 1.0 mL water with 4.3 mg/mL mannitol and 0.9 mg/mL citrate buffer at pH 3.85. A dry powder of the 26.7% human calcitonin formulation was produced by spray drying. The final 26.7% human calcitonin dry powder composition contained 60% mannitol and 13.3% citrate. The formulation contained 0.71% moisture. The particle size distribution of the composition was determined to be 1.33 MMD.

2002:290686 HCAPLUS <<LOGINID::20100623>> AN

DN 136:299752

- TΙ Spray-drying a drug and a hydrophobic amino acid for pharmaceuticals
- Platz, Robert M.; Patton, John S.; Foster, Linda; Eljamal, Mohammed IN
- PΑ Inhale Therapeutic Systems, USA
- SO U.S., 11 pp., Cont. of U.S. Ser. No. 737,724. CODEN: USXXAM
- DT Patent
- LA English

FAN.	CNT	21																	
	PAT	CENT I	.OV			KINI) -	DATE			APPL	ICAT:	ION I	NO.		D2	ATE		
PI	US EP	6372: 9401: 9401:	258 54			B1 A2		2002 1999	0416 0908		US 1	999-	4477	53		1			
		R: 1693 1693	080	ŕ	ŕ	DE, A2 A3	·	ES, 2006 2007	0823	·	,	,	,	,	,	,		702	
	ES US US NZ EP	3598- 2284: 5607: 5785: 3297- 1462:	42 226 915 049 47			T T3 A A A A			0515 1101 0304 0728 0825 0929		AT 1 ES 1 US 1 US 1	999- 999- 994- 994-	1103 1103 2328 3096	69 69 49 91	·	1: 1: 1:	9920 9920 9940 9940	425 921	
		2036	AT, 541	BE,	CH,	DE, A1	DK,		FR, 0318	GB,	EP 2	008-	2125	9		1	950	207	
	US	R: 5767 6582 9531	50 728			В		2004	0221 0624		TW 1 US 1	995- 995-	8410 4235	1726 15		1:	9950: 9950:	224 414	SE
		₩:	GB,	GE, MN,	HU,	IS,	JP,	BR, KE, NZ,	KG,	KP,	KR,	KΖ,	LK,	LR,	LT,	LU,	LV,	MD,	
			LU, SN	MC,	NL,	PT,	SE,	AT, BF,	BJ,	CF,	CG,	CI,	CM,	GA,	GN,	ML,	MR,	NE,	
	US US US	58140 62313 6080	607 851 721	·		A B1 A		1998 2001 2000	0929 0515 0627		US 1 US 1 US 1	996-0 997-1 998-1	6255 7377. 1284	86 24 01		1: 1: 1:	9960: 9970: 9980:	328 714 803	

US 7456150 US 20020132787	B1 A1	20020919 t	JS 20	000-577264 001-978826		20000522 20011016
US 20020127188	A1			002-66106		20020201
US 20020192164	A1			002-141044		20020507
US 20030053959 US 6737045	A1		JS 20	002-141028		20020507
US 20030086877	B2 A1	20040518 20030508	10 20	002-245705		20020918
US 20030080877	A1			002-245707		20020918
US 7300919	B2	20071127	70 20	002 210,01		20020310
US 20030129141	A1		JS 20	003-355578		20030131
US 6921527	В2	20050726				
US 20030185765	A1	20031002 t	JS 20	003-388814		20030314
US 20040096400	A1		JS 20	003-612376		20030701
US 7521069	В2	20090421				
US 20040096401	A1			003-613078		20030701
US 20050279349	A1			003-693318		20031024
JP 2006077032	A			005-350682		20051205
US 20080075782 US 20090203576	A1 A1			007-981198 009-396525		20071030 20090303
PRAI US 1992-910048	A1 A2	19920708	15 2(309-396323		20090303
US 1993-44358	A1	19930407				
US 1994-232849	A1	19940425				
US 1994-246034	A1	19940518				
US 1994-309691	A1	19940921				
US 1994-313707	A1	19940927				
US 1995-383475	A1	19950201				
US 1995-417507	A2	19950404				
US 1995-423515	A1	19950414				
WO 1995-US6008	W	19950515				
US 1997-737724	A2	19970714				
US 1991-724915	A	19910702				
EP 1992-914592	А3	19920702				
EP 1999-110369	A3	19920702				
US 1992-953397	B1	19920929				
US 1994-207472	A	19940307				
EP 1995-909506 EP 2004-76082	A3 A3	19950207				
JP 1995-523456	A3	19950207 19950207				
NZ 1995-281112	A3 A1	19950207				
US 1995-576885	A1	19951222				
US 1996-625586	A3	19960328				
US 1996-668036	A1	19960617				
US 1997-979024	A1	19971126				
US 1998-128401	A1	19980803				
US 1999-427075	А3	19991026				
US 1999-427836	A1	19991026				
US 1999-447753	A1	19991122				
US 2000-561690	A1	20000501				
US 2000-577264	A1	20000522				
US 2000-616236	A1	20000714				
US 2002-66106	B1	20020201				
US 2002-245706	A1	20020918				
US 2002-245707 US 2003-355578	A1 A1	20020918 20030131				
ASSIGNMENT HISTORY FOR US			J J.QT	IS DISDIAV	FORMAT	
TOO TOINING HID TOKE FOR US	- WITHI	varuaduu II	, no	OO DISERVI	TOMM	

OSC.G 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN

TI Dry powder compositions having improved dispersivity

AΒ The present invention provides a highly dispersible formulation comprising an active agent and a dipeptide or tripeptide comprising at least two leucyl residues. The composition of the invention possesses superior aerosol properties and is thus preferred for aerosolized administration to the lung. Also provided are a method for (i) increasing the dispersibility of an active-agent containing formulation for administration to the lung, and (ii) delivery of the composition to the lungs of a subject. The surface tension of several representative di- and tripeptides and proteins was determined and highly surface active peptides include dileucine and trileucine.

ΑN 2001:338322 HCAPLUS <<LOGINID::20100623>>

DN 134:357557

ΤI Dry powder compositions having improved dispersivity

ΙN Lechuga-Ballesteros, David; Kuo, Mei-Chang

Inhale Therapeutic Systems, Inc., USA PA

PCT Int. Appl., 56 pp. SO CODEN: PIXXD2

DT Patent

LA

English

FAN.		1 1																	
	PA:	ENT				KIN:	D -	DATE			APPL	LICAT	CION	NO.		D	ATE		
PI		2001 W:	0321 AE, CU, ID, LV,	AG, CZ, IL, MA,	AL, DE, IN, MD,	A1 AM, DK, IS, MG,	AT, DM, JP, MK,	2001 AU, DZ, KE, MN, TM,	0510 AZ, EE, KG, MW,	BA, ES, KP, MX,	BB, FI, KR, NO,	BG, GB, KZ, NZ,	GD, LC, PL,	BY, GE, LK, PT,	GH, LR, RO,	CH, GM, LS, RU,	HR, LT, SD,	CR, HU, LU, SE,	ZW
		RW:	DK,	ES,	FI,	FR,	GB,	SD, GR, GW,	ΙE,	IT,	LU,	MC,	NL,	PT,					
		2389				A1		2001	0510		CA 2	2000-	-2389	219		2	0000	412	
		2389				С		2009	0623										
		2000		53		A		2001			AU 2	2000-	4235	3		2	0000	412	
	ΕP	7755 1223 1223	915			B2 A1 B1		2004 2002 2005	0724		EP 2	2000-	-9221	17		2	0000	412	
		R:	AT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	IT,	LI,	LU,	NL,	SE,	MC,	PT,	
					LT,			RO,	MK,										
	нп	2003 2003 2003 5184 1188 3133 1666	0018	51		T A2 A3		2003 2003 2006	0929					49			0000		
	ΝZ	5184	01			A		2004			NZ 2	2000-	-5184	01		2	0000	412	
	CN	1188	111			С		2005	0209					89					
	ΑT	3133	18			Τ		2006	0115		AT 2	2000-	-9221 -2761	17		2	0000	412	
	ΕP	1666	028			A1		2006	0607		EP 2	2005-	2761	0		2	0000	412	
	ΕP	1666				В1		2010											
		R:	ΙE,	BE, FI,		·	DK,	ES,		·	·		·	•	·	·		·	
		2254				Т3		2006						17			0000		
		1490				A		2007			TL Z	2000-	1490	85			0000		
		3106 4616				B T		2009 2010			IW Z	2000-	-8910 -2761	6941			0000		
		6518	22G			л В1		2010						59					
								2003					-2855				0020		
	NO	2002 2002	0020	00		Α		2003					1800				0020		
		2002		93		A		2002			MX 2	2002-	4193			2	0020	426	
		2289						2009						4					
	US	2003 6835	0186	894		A1 A1 B2		2003 2004	1002		US 2	2002-	-3133	43		2	0021		
	US	2005 7482	0147	567		A1 B2		2005 2009	0707		US 2	2004-	-9855	09		2	0041	110	

```
US 20090117193 A1 20090507 US 2008-343365 20081223 PRAI US 1999-162451P P 19991029
                               P
      US 1999-162431P P
US 1999-164236P P
US 1999-172769P P
US 2000-178383P P
US 2000-178415P P
EP 2000-922117 A3
                                         19991108
                                     19991220
20000127
20000127
                               P
                               P
                               A3 20000412
      WO 2000-US9785
                                       20000412
                                W
      US 2000-548759
                                A1
                                        20000413
      US 2002-313343
US 2004-985509
                                A1 20021206
                                A3
                                        20041110
```

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 39 THERE ARE 39 CAPLUS RECORDS THAT CITE THIS RECORD (49 CITINGS)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L5 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Drug delivery systems comprising pharmacological agents encapsulated with proteinoids
- AB A pharmacol. active agent is encapsulated within proteinoid microspheres having diameter of $\leq\!10~\mu m$ and formed from linear thermal condensation polymers of mixed amino acids. The microspheres protect the active agent from deleterious conditions within the gastrointestinal tract and release the active agent in the bloodstream or other targets. A mixture of aspartic acid, arginine-HCl, isoleucine, and glycerol was heated to yield a solid proteinoid material, which was ground to a fine powder. The powdered proteinoid was mixed with an aqueous solution of porcine insulin crystals to give insulin-bearing microspheres. The microsphere suspension was orally administered to rats and the decrease in blood glucose was observed
- AN 1993:11756 HCAPLUS <<LOGINID::20100623>>
- DN 118:11756
- OREF 118:2201a,2204a
- TI Drug delivery systems comprising pharmacological agents encapsulated with proteinoids
- PA Clinical Technologies Associates, Inc., USA
- SO Israeli, 33 pp. CODEN: ISXXAQ
- DT Patent
- LA English

FAN.CNT 1

	PA'	TENT NO.	KIND	DATE	AP.	PLICATION NO.	DATE
ΡI	IL	84935	A	19920115	IL	1987-84935	19871223
PRAT	TT.	1987-84935		19871223			

=> s 12

L6 45532 L2

=> s 14 and 16

L7 1025 L4 AND L6

=> s inhal?

L8 66856 INHAL?

=> s 17 adn 18

MISSING OPERATOR L7 ADN

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

```
=> s 17 and 18
       137 L7 AND L8
=> s fine or particle
       377805 FINE
        932885 PARTICLE
L10
       1253967 FINE OR PARTICLE
=> s 19 and 110
          113 L9 AND L10
=> s 111 and (PY<2004 or AY<2004 or PRY<2004)
      24051141 PY<2004
       4831495 AY<2004
       4305517 PRY<2004
            50 L11 AND (PY<2004 OR AY<2004 OR PRY<2004)
L12
=> s 112 not 15
           44 L12 NOT L5
L13
=> d 113 1-44 ti abs bib
L13 ANSWER 1 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Use of simple hydrophobic amino acids to form porous microparticles
     including phospholipid, for pulmonary drug delivery
     Particles having a tap d. of less than 0.4 g/cm3 include a hydrophobic
AB
     amino acid or salt thereof and a therapeutic, prophylactic or diagnostic
     agent or any combination thereof. Preferred particles include a
     phospholipid, have a median geometric diameter between about 5 and about 30
     \mu and an aerodynamic diameter between about 1 and about 5 \mu. The
     particles can be formed by spray-drying and are useful for delivery to the
     pulmonary system. Thus, particles including 4% albuterol sulfate,
     60% DPPC and 36% leucine, alanine or glycine were formed by spray-drying.
     They exhibited mass median aerodynamic diams. of 2.38, 3.17, and 5.35
     \mu\text{m}, volumetric median geometric diams. of 10.28, 11.48, and 13.09
     \mum, and densities of 0.054, 0.076, and 0.167 g/cm3, resp. The data
     showed that all three amino acids were useful in forming particles
     suitable for pulmonary delivery; leucine and alanine
     formulations appeared best suited for delivery to the deep lung, while
     glycine formulations appeared more suitable for delivery to the central
     and upper airways.
ΑN
     2007:863560 HCAPLUS <<LOGINID::20100623>>
DN
    147:197422
TΙ
     Use of simple hydrophobic amino acids to form porous microparticles
     including phospholipid, for pulmonary drug delivery
     Batycky, Richard P.; Lipp, Michael M.; Niven, Ralph W.
ΙN
     Advanced Inhalation Research, Inc., USA
PΑ
     U.S., 11pp., Cont.-in-part of U.S. Ser. No. 382,959.
SO
     CODEN: USXXAM
DT
     Patent
LA
    English
FAN.CNT 2
                                           APPLICATION NO.
     PATENT NO.
                       KIND
                               DATE
                               _____
                                           _____
                                           US 2000-644320
    US 7252840
                        В1
                               20070807
                                                                  20000823 <--
                        В1
     US 6586008
                               20030701
                                           US 1999-382959
                                                                  19990825 <--
                        T
    AT 319429
                               20060315
                                           AT 2000-957716
                                                                  20000823 <--
                    Ā2
                        A2 20060322
A3 20080305
     EP 1637128
                                           EP 2005-77639
                                                                  20000823 <--
```

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

EP 1637128

IE, FI, CY

```
PT 1210068 E
                         E 20060731 PT 2000-957716
T3 20060916 ES 2000-957716
                                                                    20000823 <--
                                                                    20000823 <--
     ES 2258981
                                                                   20061212 <--
                        A1 20070510 US 2006-637353
     US 20070104658
     US 20080160092
                        A1 20080703 US 2007-873467
                                                                   20071017 <--
     US 20080160098
                        A1 20080703
                                           US 2007-873472
                                                                   20071017 <--
PRAI US 1999-382959
                        A2 19990825 <--
     EP 2000-957716
                        A3 20000823 <--
     US 2000-644320
                        A1 20000823 <--
     US 2006-637353
                          А3
                               20061212
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
              THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
              THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 2 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
TI
     Trospium-containing compositions
AΒ
     The invention relates to a method for treating a disease characterized by
     a constrictive airway comprising administering to a patient in need
     thereof via inhalation a pharmaceutical composition comprising
     trospium, wherein said patient achieves an effective therapy for at least
     10 h. The trospium composition is preferably a particulate formulation useful
     for administration via a dry powder inhaler. In a
     preferred embodiment, the composition further comprises a second active agent,
     such as a beta-2 agonist. A particularly preferred second active agent is
     formoterol, wherein the trospium, formoterol composition is manufactured by
spray
     drying a mixture comprising trospium and formoterol.
ΑN
     2007:202111 HCAPLUS <<LOGINID::20100623>>
DN
     146:259006
    Trospium-containing compositions
TΤ
    Ehrich, Elliot; Deaver, Daniel; Clarke, Robert; Lipp, Michael M.
ΤN
PΑ
     Advanced Inhalation Research, Inc., USA
     U.S. Pat. Appl. Publ., 9 pp., Cont.-in-part of U.S. Ser. No. 392,333.
SO
     CODEN: USXXCO
DT
     Patent
LA
    English
FAN.CNT 2
                    KIND DATE APPLICATION NO. DATE
     PATENT NO.
                        A1
    US 20070041912
                                20070222 US 2005-550471 20050922 <--
     US 20040042970
                        A1
                               20040304 US 2003-392333
                                                                   20030319 <--
     CA 2517265
                        A1
                               20041104 CA 2003-2517265
                                                                   20030904 <--
                        A1 20041104 WO 2003-US27618
     WO 2004093861
                                                                   20030904 <--
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     AU 2003273273
                          A1
                                20041119
                                          AU 2003-273273
                                                                    20030904 <--
     AU 2003273273
                         В2
                                20070208
     EP 1603547
                               20051214
                                          EP 2003-755776
                                                                    20030904 <--
                         Α1
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     JP 2006514679 T 20060511 JP 2004-571157 20030904 <--
NZ 541745 A 20091127 NZ 2003-541745 20030904 <--
     NZ 541745
                         Α
                               20091127
                                           NZ 2003-541745
                                                                   20030904 <--
     IN 2005DN03513 A 20070817 IN 2005-DN3513
                                                                   20050808 <--
```

```
MX 2005009629 A
                                  20051018 MX 2005-9629
                                                                        20050908 <--
                          A1
     AU 2006220411
                                  20061012 AU 2006-220411
                                                                        20060920 <--
     AU 2006220411
                          B2
                                  20080626
                          A2
PRAI US 2003-392333
                                20030319 <--
     WO 2003-US27618
                          W
                                 20030904 <--
                          P
     US 2002-366354P
                                 20020320 <--
     US 2002-366440P P
US 2002-366449P P
                                20020320 <--
                                20020320 <--
                          Ρ
     US 2002-366470P
                                 20020320 <--
     US 2002-366479P
                          Р
                                 20020320 <--
     US 2002-366487P
                          Ρ
                                 20020320 <--
     AU 2003-230689
                          А3
                                 20030319 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
              THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
L13 ANSWER 3 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
     Pharmaceutical compositions comprising apomorphine for pulmonary
     inhalation
AΒ
     The present invention relates to inhalable formulations of
     apomorphine or its pharmaceutically acceptable salts or esters for use in
     treating sexual dysfunction. The present invention also relates to
     methods for preparing the apomorphine formulations as well as to methods for
     treatment of sexual dysfunction using said formulations and
     inhalers including said formulations. The present invention
     further relates to the use of apomorphine in the manufacture of a medicament
     for treating sexual dysfunction. Thus, 10 g of micronized apomorphine
     hydrochloride was added to 70 g of micronized lactose (Respitose SV 003),
     an addnl. 70 g of the lactose were added, and the resultant blend was
     passed through a 150 \mu m screen. The particle size
     distribution for a 200 \mu g dose of the apomorphine-lactose
     powder was fine particle dose (<5 \mum) 117
     \mug, ultrafine particle dose (<2.5 \mum) 80 \mug, and MMAD
     (mass median aerodynamic diameter) 1.94 \mum.
     2006:796630 HCAPLUS <<LOGINID::20100623>>
ΑN
     145:217984
DN
ΤI
     Pharmaceutical compositions comprising apomorphine for pulmonary
     inhalation
     Staniforth, John Nicholas; Morton, David; Tobyn, Michael; Eason, Stephen;
     Harmer, Quentin; Ganderton, David
PΑ
SO
     U.S. Pat. Appl. Publ., 51pp., Cont.-in-part of U.S. Ser. No. 621,964.
     CODEN: USXXCO
DT
     Patent
LA
     English
FAN.CNT 8
                                  DATE APPLICATION NO. DATE
                         KIND
     PATENT NO.
                          ____
                                  _____
                                               ______
                                  20060810 US 2006-552231 20060421 <--
     US 20060178394
                          A1
PΙ
                          A1
     US 20040204439
                                  20041014 US 2003-413022
                                                                       20030414 <--
     US 20040204440
                           A1
                                               US 2003-621964
                                                                        20030717 <--
                                  20041014
                          A1
                                             WO 2004-GB1627
                                 20041021
     WO 2004089374
                                                                        20040414 <--
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
         TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
```

ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,

```
TD, TG
                        A2
PRAI US 2003-413022
                                20030414 <--
                         A2
                                20030717 <--
     US 2003-621964
                        W
     WO 2004-GB1627
                                20040414
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
              THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
L13 ANSWER 4 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Pharmaceutical compositions for treating premature ejaculation by
     pulmonary inhalation
AΒ
     The present invention relates to improved formulations for the treatment
     of premature ejaculation and, in particular, relates to the administration
     of antidepressants by pulmonary inhalation for
     treating premature ejaculation. Various types of known antidepressants
     may be used, including tricyclic antidepressants, such as clomipramine.
     For example, clomipramine-HCl was micronized with an injector air pressure
     of 7 bar, grinding air pressure of 5 bar, and powder feed rate
     of approx. 10 g/min. The pre-micronized clomipramine was then blended in
     a pestle with a spatula with 5% Mg stearate and the blend was micronized
     with an injector air pressure of 7 bar, grinding air pressure of 1 bar and
     powder feed rate of approx. 10 g/min. Malvern (dry powder
     ) particle size measurement gave a d(50) of 1.39 \mu m. Approx.
     2 mg of the formulation was then loaded and sealed into a foil blister to
     be used in a powder inhaler device.
     2005:259861 HCAPLUS <<LOGINID::20100623>>
ΑN
     142:322765
DN
    Pharmaceutical compositions for treating premature ejaculation by
ΤI
     pulmonary inhalation
ΙN
    Morton, David; Staniforth, John; Tobyn, Mike; Eason, Stephen; Harmer,
     Quentin; Ganderton, David
     Vectura Limited, UK
PA
SO
     PCT Int. Appl., 62 pp.
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 8
                                          APPLICATION NO. DATE
     PATENT NO.
                       KIND DATE
                       ____
                               _____
     WO 2005025550
                        A1 20050324 WO 2004-GB3935 20040915 <--
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
     AU 2004271779
                         Α1
                                20050324
                                            AU 2004-271779
                                                                   20040915 <--
                                           CA 2004-2538997
     CA 2538997
                         Α1
                                20050324
                                                                   20040915 <--
                                          EP 2004-768481
     EP 1663180
                         Α1
                                20060607
                                                                   20040915 <--
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR
                        A
                                20061114
     BR 2004014428
                                            BR 2004-14428
                                                                   20040915 <--
     CN 1882318
                        Α
                                20061220
                                            CN 2004-80033670
                                                                  20040915 <--
                   T 20070315
A1 20081030
C2 20090727
A 20090925
                        Τ
                                            JP 2006-525903
                                                                  20040915 <--
     JP 2007505831
                                                                  20040915 <--
     SG 146648
                                           SG 2008-6901
                                         RU 2006-112589
NZ 2004-545484
     RU 2362551
                                                                  20040915 <--
     NZ 545484
                                                                   20040915 <--
```

```
NO 2006000978 A
                               20060526 NO 2006-978
20061117 KR 2006-705140
                                                                  20060228 <--
    KR 2006117909
                                                                  20060314 <--
                        A
    MX 2006002951
                        A
                                         MX 2006-2951
                               20060920
                                                                  20060315 <--
                             20070425
20070629
    ZA 2006002747
                        A
                                          ZA 2006-2747
                                                                  20060404 <--
                        A
                                          IN 2006-CN1283
    IN 2006CN01283
                                                                  20060413 <--
    US 20070043030
                        A1 20070222
                                          US 2006-570937
                                                                  20060717 <--
PRAI GB 2003-21612
                        Α
                              20030915 <--
    GB 2004-12562
                        Α
                              20040604
    WO 2004-GB3935
                         W
                               20040915
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
             THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
RE.CNT 4
             THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 5 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
T.13
    Manufacture of benzodiazepine compositions for pulmonary
ΤI
    inhalation
AΒ
    The present invention relates to a pharmaceutical composition comprising a
    fine particle fraction (<5 \mu m) of at least 50%, and
    preferably between 70 and 99% or between 80 and 99%, and to methods of
    making particles. In particular, the invention relates to methods of
    making composite active particles comprising a pharmaceutically active
    material, i.e., a benzodiazepine, such as clobazam or clonazepam, for
    pulmonary inhalation, the method comprising a jet
    milling process. For example, a powder was prepared containing 80%
    clobazam, 18% micronized lactose (Respitose SV003, mean particle
    size 50 to 55 \mu m), and 2% leucine. The formulation was then
    incorporated into blisters, each blister containing 4 mg of the powder
    2005:259853 HCAPLUS <<LOGINID::20100623>>
ΑN
DN
    142:322761
TΙ
    Manufacture of benzodiazepine compositions for pulmonary
```

- inhalation
- Morton, David; Ganderton, David; Staniforth, John; Tobyn, Mike; Eason, ΙN Stephen; Harmer, Quentin
- PAVectura Limited, UK
- SO PCT Int. Appl., 76 pp.
 - CODEN: PIXXD2
- DT Patent
- English LA
- FAN.CNT 8

```
KIND
                                        DATE APPLICATION NO. DATE
PΤ
      WO 2005025541
                               A2
                                        20050324
                                                      WO 2004-GB3942
                                                                                    20040915 <--
      WO 2005025541
                               A3 20050512
           W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
                CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
                GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
                LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
                NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
           RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
                SN, TD, TG
      AU 2004271783
                                 Α1
                                         20050324
                                                       AU 2004-271783
                                                                                      20040915 <--
                                                     CA 2004-2539041
EP 2004-768488
                                                                                    20040915 <--
      CA 2539041
                                A1
                                         20050324
      EP 1670438
                                A2
                                      20060621
                                                                                     20040915 <--
           R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
```

```
CN 1882314 A 20061220 CN 2004-80033645 20040915 <--
JP 2007505832 T 20070315 JP 2006-525904 20040915 <--
ZA 2006002747 A 20070425 ZA 2006-2747 20060404 <--
IN 2006CN01285 A 20070629 IN 2006-CN1285 20060413 <--
US 20070081948 A1 20070412 US 2006-571884 20060717 <--
GB 2003-21607 A 20030915 <--
GB 2003-21608 A 20030915 <--
GB 2003-21612 A 20030915 <--
GB 2004-9133 A 20040423
PRAI GB 2003-21607
     GB 2004-9133 A 20040423
WO 2004-GB3942 W 20040915
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
                THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
RE.CNT 5
                THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
                ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 6 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Pharmaceutical compositions & devices for dispensing the same
TΙ
AΒ
     The present invention relates to dry powder pharmaceutical
     compns. comprising a benzodiazepine for administration by
     inhalation, and in particular, benzodiazepine dry powder
     compns. and inhaler devices for dispensing the same. Co-jet
     milled formulations comprising clobozam, lecithin, and magnesium stearate
     exhibited exceptional fine particle fraction (FPFs)
     when dispensed from an active dry powder inhaler
     device. The FPFs observed were significantly better that those of the
     mechanofused formulations and those formulations which did not include an
     additive material. This improvement would appear to be largely due to
     reduced throat deposition, which was less than 8% for the co-jet milled
     formulations, compared to 15% for the pure drug and up to 27% for the
     mechanofused formulations.
AN
     2005:259848 HCAPLUS <<LOGINID::20100623>>
     142:322760
DN
     Pharmaceutical compositions & devices for dispensing the same
ΤI
     Morton, David; Ganderton, David; Staniforth, John; Tobyn, Mike; Eason,
ΙN
     Stephen; Harmer, Quentin
PΑ
     Vectura Ltd., UK
SO
     PCT Int. Appl., 65 pp.
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 8
                       KIND DATE APPLICATION NO. DATE
                           A2 20050324
     WO 2005025536
                                                  WO 2004-GB3996 20040915 <--
PΤ
                             A3
     WO 2005025536
                                    20050512
     WO 2005025536 A9 20050811
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
               CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
               GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
               LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
          RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
               SN, TD, TG
                                    20060607
                                                 EP 2004-768542
     EP 1663155
                              A2
                                                                               20040915 <--
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
               IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
     ZA 2006002747
                            A 20070425 ZA 2006-2747
                                                                              20060404 <--
```

```
US 20060257491 A1
                                20061116 US 2006-571146 20060717 <--
                                20030915 <--
PRAI GB 2003-21607
                         A
                         Α
     GB 2003-21608
                                20030915 <--
     GB 2003-21612
                         Α
                                20030915 <--
     GB 2004-9133
                         Α
                                20040423
     WO 2004-GB3996
                          W
                                20040915
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G
              THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 7
              THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 7 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
TΙ
     Devices and pharmaceutical compositions containing amino acids,
     phospholipids or stearates for enhancing dosing efficiency
AΒ
     The present invention relates to enhancing the dosing efficiency of
     pharmaceutical dry powder formulations administered by
     pulmonary inhalation. In particular, the present
     invention relates to the provision of dry powder
     inhalers and dry powder compns. which reproducibly
     achieve a much higher delivered dose of the pharmaceutically active agent
     than currently achieved, that is wherein upon actuation of the device, a
     dosing efficiency at 5 \mu m of at least 70% is achieved. For example, a
     blend containing Pharmatose 150M 85.15%, Sorbolac 400 8.25%, micronized
     leucine 5.00%, and apomorphine hydrochloride 1.60% was prepared, and the
     blend was passed through a 212 \mu m sieve. Thereafter, the blend (25 mg;
     400 \mu q apomorphine hydrochloride) was placed in capsules and tested in
     a Cyclohaler inhaler using an Anderson Cascade Impactor (ACI)
     testing device. A delivered dose was 81% of the total dose, fine
     particle fraction (percent of the delivered dose <5~\mu\text{m}) was
     67%, fine particle dose (percent of the total dose <5
     \mum) was 55%, a mass median aerodynamic diameter (MMAD) was 2.3 \mum,
     fine particle dose was 220 \mu\text{m}, ultrafine
     particle dose (percent of the total dose <3 \mu m) was 44\%,
     ultrafine particle dose was 175 \mu\text{m}, and ultrafine
     particle fraction was 53%.
ΑN
     2004:927035 HCAPLUS <<LOGINID::20100623>>
DN
     141:384314
     Devices and pharmaceutical compositions containing amino acids,
     phospholipids or stearates for enhancing dosing efficiency
     Staniforth, John; Morton, David; Tobyn, Michael; Eason, Stephen; Harmer,
     Quentin; Ganderton, David
PΑ
     Vectura Ltd., UK
SO
     PCT Int. Appl., 222 pp.
     CODEN: PIXXD2
     Patent
DT
LA
     English
FAN.CNT 8
                                DATE
                        KIND
                                           APPLICATION NO. DATE
     PATENT NO.
                         ____
                                            _____
     WO 2004093848
                         A2
                                20041104
                                           WO 2004-GB1628
                                                                    20040414 <--
PΙ
     WO 2004093848
                         А3
                               20050428
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,
             ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
             SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN,
```

```
TD, TG
                              20041014 US 2003-413022
20041014 US 2003-621964
    US 20040204439
                                                                20030414 <--
                       A1
                       A1
    US 20040204440
                                                                20030717 <--
                              20041104 AU 2004-231342
    AU 2004231342
                       A1
                                                                20040414 <--
    CA 2522158
                              20041104 CA 2004-2522158
                        A1
                                                                20040414 <--
    EP 1617820
                        Α2
                              20060125 EP 2004-727320
                                                                20040414 <--
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR
    JP 2006522634
                        Τ
                              20061005
                                         JP 2006-506130
                                                                20040414 <--
    US 20060147389
                        A1
                              20060706
                                        US 2005-552326
                                                               20051007
    IN 2005CN02992
                              20070921 IN 2005-CN2992
                                                               20051114 <--
                       Α
    ZA 2006002747
                             20070425
                                         ZA 2006-2747
                                                               20060404 <--
                       Α
    IN 2008CN05576
                       Α
                             20090320
                                         IN 2008-CN5576
                                                                20081016 <--
                             20030414 <--
PRAI US 2003-413022
                       Α
    US 2003-621964
                       Α
                             20030717 <--
    GB 2003-21612
                             20030915 <--
                        Α
    WO 2004-GB1628
                              20040414
                        W
                        А3
    IN 2005-CN2992
                              20051114
             THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
OSC.G
RE.CNT 8
             THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
```

- L13 ANSWER 8 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Preparation and pharmaceutical properties of salcatonin dry powder inhalations

ALL CITATIONS AVAILABLE IN THE RE FORMAT

- The salcatonin dry powder inhalations (SCT-DPIs) A AΒ (mixture of mannitol and L-leucine) and B (mixture of mannitol and lactose) were prepared by spray-drying and their main pharmaceutical properties were studied. Dumping rate of SCT-DPI capsules and deposited fraction of SCT at effective part were determined according to Chinese Pharmacopeia 2000. Particle morphol. under different relative humidity (RH) was observed by scanning electron microphotograph, particle size and its distribution were determined by Malvem Mastersizer and the transition of amorphous state for carriers before and after spray- drying was studied by DTA and X-ray powder diffraction (XRPD). Dumping rates of SCT-DPIs A and B capsules were both above 10% and deposited fraction of SCT at effective part was above 90% for both A and B formulations, which were all in agreement with the standard of Chinese Pharmacopeia 2000. Powder particle of SCT-DPI A was round and existed one by one after keeping one month under 0, 23% and 52% RH, but aggregation could be observed under 75% RH; many particles which were also round agglomerated in SCT-DPI B even under zero RH; mean particle size of SCT-DPI A was 1.67 μm , which was much smaller than that of SCT-DPI B; in SCT-DPI A particle with empty core which was lighter than the same size particle with concreted core was observed. It was shown by DTA that melted heat of L-leucine in SCT-DPI composed of mannitol and L-leucine was lower than that of L-leucine alone after spray-drying. It was confirmed by XRPD that diffraction intensity of carriers in SCT-DPIs decreased more than that of carriers before spray-drying. Round particle could be made when mannitol was added to carriers and ultra low d. carriers could be formed when L-leucine was added. It was suggested by SEM that DPIs should be kept under certain RH. Particle size and distribution of SCT-DPIs were in accordance with DPIs requirements. Complex spray-drying carriers formed amorphous state easier than single carrier.
- AN 2004:727750 HCAPLUS <<LOGINID::20100623>>
- DN 142:341575
- TI Preparation and pharmaceutical properties of salcatonin dry powder inhalations
- AU Xiong, Lianjie; Zhu, Jiabi
- CS Zhongkun Pharmaceutical Research Institute, China Pharmaceutical

University, Nanjing, 210009, Peop. Rep. China SO Yaoxue Xuebao (2003), 38(3), 218-222 CODEN: YHHPAL; ISSN: 0513-4870 PΒ Yaoxue Xuebao Bianjibu DT Journal LA Chinese OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS) L13 ANSWER 9 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN Freeze-dried interferon-γ composition for transpulmonary administration and inhalation system therefor AΒ The present invention provides a freeze-dried interferon- γ composition for transpulmonary administration which can maintain IFN- γ stably, and can be prepared into fine particles in a vessel at the time of use. A freeze-dried interferon- γ composition for transpulmonary administration of the present invention has the following properties: (1) containing at least one hydrophobic stabilizer selected from the group consisting of hydrophobic amino acids, dipeptides of hydrophobic amino acids, tripeptides of hydrophobic amino acids and derivs. of hydrophobic amino acids and salts thereof; at least one hydrophilic stabilizer selected from the group consisting of hydrophilic amino acids, dipeptides of hydrophilic amino acids, tripeptides of hydrophilic amino acids, derivs. of hydrophilic amino acids and salts thereof; and interferon- γ (2) a non- powder cake-like form; (3) a disintegration index of 0.015 or more; and (4) becoming fine particles having a mean particle diameter of 10 μm or less or a fine particle fraction of 10 % or more upon receipt of an air impact having an air speed of at least 1 m/s and an air flow rate of at least 17 mL/s.2004:531379 HCAPLUS <<LOGINID::20100623>> ΑN 141:76771 DΝ ΤI Freeze-dried interferon- γ composition for transpulmonary administration and inhalation system therefor INYamashita, Chikamasa; Ibaragi, Shigeru Otsuka Pharmaceutical Co., Ltd., Japan PASO PCT Int. Appl., 120 pp. CODEN: PIXXD2 DT Patent English LΑ FAN.CNT 1 APPLICATION NO. DATE PATENT NO. KIND DATE A1 20040701 WO 2003-JP15957 PΙ WO 2004054605 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG AU 2003285776 Α1 20040709 AU 2003-285776 20031212 <--20050907 EP 2003-778884 20031212 <--EP 1569681 Α1 AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK A CN 1726045 20060125 CN 2003-80106050 20031212 <--Τ JP 2006509825 20060323 JP 2004-560629 20031212 <--A1 20060316 US 2005-538781 A 20091030 IN 2005-DN2516 US 20060057106 20050610 <--IN 2005DN02516 20050611 <--

```
UP ZUUZ-363026 A 20021213 <--
WO 2003-JP15957 W 20031212 <--
SNMENT UICTORY
PRAI JP 2002-363026
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
               THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 3
               THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 10 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
L13
     Novel dry powder inhalation system for transpulmonary
     administration
     It is intended to provide a novel dry powder inhalation
AB
     system for transpulmonary administration which is suitable for
     transpulmonary administration. This novel dry powder
     inhalation system for transpulmonary administration comprises :
     (1) a container having a freeze-dried composition for transpulmonary
     administration which is prepared by freeze-drying a liquid composition
containing a
     component in an undissolved state and has the following properties (i) to
     (iii): (i) being in the form of a non-powdery cake; (ii) having a
     disintegration index of 0.05 or more; and (iii) upon an air impact of an
     air speed of at least 1 m/s and an air flow rate of at least 17 mL/s,
     being disintegrated into fine particles having an average
     particle diameter (an aerodynamic particle diameter) of 10
     \mu m or less or an effective particle rate of 10% or more;
     combined with (2) a means of applying the above-described air impact to
     the freeze-dried composition in the above-described container, and a means of
     discharging the powdery freeze-dried composition having been disintegrated into
     fine particles. A freeze-dried inhalant composition was
     prepared from a cationic liposome (Lipofect AMINE 2000), a plasmid DNA
     (pEGFP-C2), and L-leucine.
ΑN
     2004:531335 HCAPLUS <<LOGINID::20100623>>
     141:59762
DN
ΤТ
     Novel dry powder inhalation system for transpulmonary
     administration
     Yamashita, Chikamasa; Akagi, Akitsuna; Fukunaga, Yuichiro
ΙN
PA
     Otsuka Pharmaceutical Co., Ltd., Japan
SO
     PCT Int. Appl., 106 pp.
     CODEN: PIXXD2
DT
     Patent
     Japanese
LA
FAN.CNT 2
     PATENT NO.
                          KIND
                                   DATE
                                               APPLICATION NO. DATE
                                              WO 2003-JP15931 20031212 <--
PΤ
     WO 2004054555
                           A1 20040701
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
              CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
              GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK,
              LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,
         CM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     CN 1516606
                                    20040728
                                                CN 2002-811941
                                                                           20020614 <--
                            Α
     CN 100427077
                            С
                                   20081022
     CA 2507766
                            A1
                                   20040701
                                              CA 2003-2507766
                                                                           20031212 <--
                           A1
     AU 2003289051
                                   20040709
                                               AU 2003-289051
                                                                           20031212 <--
                           В2
     AU 2003289051
                                   20080626
                                  20050928 EP 2003-778863
     EP 1579855
                           Α1
                                                                           20031212 <--
```

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

```
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
    BR 2003016754
                            20051025
                                       BR 2003-16754
                     Α
                                                            20031212 <--
    CN 1726014
                                       CN 2003-80105876
                                                            20031212 <--
                       Α
                            20060125
                      С
    CN 1323658
                            20070704
    ZA 2005005312
                      А
                                       ZA 2005-5312
                                                            20031212 <--
                            20061025
                      A
                           20070629
                                       NZ 2003-540935
                                                            20031212 <--
    NZ 540935
                          20050826
    MX 2005006322
                     A
                                       MX 2005-6322
                                                            20050613 <--
                     A1 20060406
                                       US 2005-538837
    US 20060073105
                                                            20050613 <--
                      A2 20070322
    US 20070065371
    US 7735485
                      B2 20100615
                      A 20070808 EG 2005-290
    EG 23775
                                                            20050613 <--
    IN 2005DN02889
                     A
                           20070119 IN 2005-DN2889
                                                            20050629 <--
                     A1 20080328
    IN 216513
                     A2 20060731
    HR 2005000639
                                      HR 2005-639
                                                            20050712 <--
    HK 1082403
                     A1 20071012
                                      HK 2006-102514
                                                            20060224 <--
                     A1 20080228
A 20021213
    AU 2008200583
                                      AU 2008-200583
                                                            20080207 <--
PRAI JP 2002-363158
                            20021213 <--
    JP 2001-182504
                      А
                            20010615 <--
    JP 2001-400871
                      Α
                            20011228 <--
    JP 2002-111131
                            20020412 <--
                       Α
    AU 2002-311213
                       А3
                           20020614 <--
                           20031212
    WO 2003-JP15931
                       W
                                     <--
```

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L13 ANSWER 11 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Inhalable drug delivery particles comprising epinephrine and method of uses
- AB The present invention is directed toward particles for delivery of epinephrine to the respiratory system and methods for treating a patient in need of epinephrine. The particles and respirable compns. comprising the particles of the present invention described herein comprise the bioactive agent epinephrine, or a salt thereof, as a therapeutic agent. The particles are preferably formed by spray drying. Preferably, the particles and the respirable compns. are substantially dry and are substantially free of propellants. In a preferred embodiment, the particles have aerodynamic characteristics that permit targeted delivery of epinephrine to the site(s) of action.
- AN 2004:331569 HCAPLUS <<LOGINID::20100623>>
- DN 140:344875
- TI Inhalable drug delivery particles comprising epinephrine and method of uses
- IN Batycky, Richard P.; Caponetti, Giovanni; Childs, Mariko; Ehrich, Elliot;
 Fu, Karen; Hrkach, Jeffrey S.; Li, Wen-I.; Lipp, Michael M.; Pan,
 Mei-Ling; Summa, Jason
- PA USA
- SO U.S. Pat. Appl. Publ., 60 pp. CODEN: USXXCO
- DT Patent
- LA English
- FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 20040076588 CA 2488976 CA 2488976	A1 A1 C	20040422 20040108 20090825	US 2003-607571 CA 2003-2488976	20030626 < 20030626 <
	WO 2004002551 WO 2004002551	A2 A3	20040108 20040812	WO 2003-US20166	20030626 <

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

```
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     AU 2003280102
                          Α1
                                 20040119
                                            AU 2003-280102
                                                                     20030626 <--
     AU 2003280102
                          В2
                                 20070125
     EP 1531794
                          Α2
                                20050525
                                            EP 2003-742233
                                                                     20030626 <--
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
                      Р
PRAI US 2002-393007P
                               20020628 <--
     US 2002-393716P
                         Ρ
                                20020702 <--
     US 2002-425349P
                         Р
                                 20021108 <--
     WO 2003-US20166
                         W
                                20030626 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G
              THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
L13 ANSWER 12 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Nebulizer formulations of dehydroepiandrosterone and methods of treating
     asthma or chronic obstructive pulmonary disease using
     compositions thereof
     This invention relates to a sealed container containing a powder
AB
     formulation comprising a dehydroepiandrosterone (DHEA), its analog(s) or
     salt(s) by itself or with a pharmaceutically or veterinary acceptable
     carrier or diluent, and having a particle size of about 0.1
     \mu\text{m} to about 100 \mu\text{m}. The formulation can be used to treat or prevent
     asthma, chronic obstructive pulmonary disease, lung
     inflammation, and other respiratory diseases or conditions. The
     formulation may be prepared by jet milling, and may be delivered through the
     respiratory tract or other routes using a nebulizer. The sealed container
     is provided in a device and/or a therapeutic kit. Spry drying of anhydrous
     DHEA sulfate and determination of respiratory dose is described.
ΑN
     2004:120665 HCAPLUS <<LOGINID::20100623>>
     140:169659
DN
     Nebulizer formulations of dehydroepiandrosterone and methods of treating
ΤI
     asthma or chronic obstructive pulmonary disease using
     compositions thereof
     Leonard, Sherrya.; Johnson, Keith A.
ΤN
     Epigenesis Pharmaceuticals, Inc., USA
PA
     PCT Int. Appl., 69 pp.
SO
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 2
     PATENT NO.
                        KIND
                                 DATE
                                             APPLICATION NO.
                                                                     DATE
                         ____
                                 _____
                                             ______
     _____
     WO 2004012653
                         A2
                                             WO 2003-US18944
PΙ
                                 20040212
                                                                     20030617 <--
                         АЗ
                               20040708
     WO 2004012653
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR,
             TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
```

```
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
      AU 2003276836 A1 20040223 AU 2003-276836
                                                                                       20030617 <--
                                 В2
      AU 2003276836
                                         20070510
      US 20040067920
                                A1
                                        20040408 US 2003-462901
                                                                                       20030617 <--
      US 7405207
                                B2 20080729
                               A1 20041202 CA 2003-2489124
A2 20050316 EP 2003-766816
      CA 2489124
                                                                                      20030617 <--
      EP 1513509
                                                                                       20030617 <--
           R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
      BR 2003011883 A
                                        20050405 BR 2003-11883
                                                                                       20030617 <--
      CN 1658884
                                Α
                                        20050824 CN 2003-813691
                                                                                       20030617 <--
                            С
      CN 100540007
                                        20090916
CN 100540007 C 20090916
CN 1681520 A 20051012 CN 2003-813681
JP 2005537296 T 20051208 JP 2004-525996
IN 2004DN03700 A 20070420 IN 2004-DN3700
IN 236147 A1 20091009
MX 2004012720 A 20070323 MX 2004-12720
US 2009087389 A1 20090402 US 2008-238403
PRAI US 2002-389242P P 20020617 <--
US 2003-477987P P 20030611 <--
US 2003-462927 B1 20030617 <--
WO 2003-US18944 W 20030617 <--
                                                                                       20030617 <--
                                                                                       20030617 <--
                                                                                      20041124 <--
                                                                                      20041215 <--
                                                       US 2008-238403
                                                                                      20080925 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
```

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L13 ANSWER 13 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Dihydrate dehydroepiandrosterone and methods of treating asthma or chronic obstructive pulmonary disease using compositions thereof
- AB This invention relates to a powder formulation comprising a dihydrate dehydroepiandrosterone covalently bound to a sulfate, its analog(s) or salt(s) by itself and with a pharmaceutically or veterinarily acceptable carrier, and having a particle size of about 0.1 μm to about 100 μm . The formulation can be used to treat or prevent asthma, chronic obstructive pulmonary disease, lung inflammation, SARS, and other respiratory diseases or conditions. The formulation may be prepared by jet milling, and may be delivered through the respiratory tract or other routes. The formulation is provided in a device and a therapeutic kit.
- AN 2003:1006714 HCAPLUS <<LOGINID::20100623>>
- DN 140:47522
- TI Dihydrate dehydroepiandrosterone and methods of treating asthma or chronic obstructive pulmonary disease using compositions
- IN Leonard, Sherry A.; Johnson, Keith A.
- PA Epigenesis Pharmaceuticals, Inc., USA
- SO PCT Int. Appl., 67 pp. CODEN: PIXXD2
- DT Patent
- LA English

FAN.CNT 2

	PAT	TENT	NO.			KIN)	DATE			APPL	ICAT	I NOI	. O <i>V</i> .		D	ATE	
PI		2003 2003				A2 A3		2003 2004		1	WO 2	003-1	JS18:	945		2	0030	517 <
		₩:	CO, GM, LS,	CR, HR, LT,	CU, HU, LU,	CZ, ID, LV,	DE, IL, MA,	AU, DK, IN, MD, RU,	DM, IS, MG,	DZ, JP, MK,	EC, KE, MN,	EE, KG, MW,	ES, KP, MX,	FI, KR, MZ,	GB, KZ, NI,	GD, LC, NO,	GE, LK, NZ,	GH, LR, OM,

```
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
            KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
            FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
            BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
    CA 2491846
                               20031224
                                          CA 2003-2491846
                                                                  20030617 <--
                         Α1
    AU 2003269889
                         Α1
                               20031231
                                           AU 2003-269889
                                                                  20030617 <--
    AU 2003269889
                         В2
                               20070419
    US 20040067920
                         Α1
                               20040408
                                          US 2003-462901
                                                                  20030617 <--
    US 7405207
                         В2
                               20080729
    BR 2003011885
                               20050405
                                           BR 2003-11885
                                                                  20030617 <--
                         Α
    EP 1553954
                               20050720
                                          EP 2003-751776
                         Α2
                                                                  20030617 <--
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
                               20050824
                                          CN 2003-813691
                                                                  20030617 <--
                        A
    CN 100540007
                         С
                               20090916
    CN 1681520
                               20051012
                                           CN 2003-813681
                                                                  20030617 <--
                        Α
    JP 2005530820
                        Τ
                               20051013
                                           JP 2004-512683
                                                                  20030617 <--
    IN 2004DN03618
                        Α
                               20070420
                                           IN 2004-DN3618
                                                                  20041118 <--
    MX 2004012728
                               20060202
                                           MX 2004-12728
                                                                  20041215 <--
                         Α
                                          US 2008-238403
    US 20090087389
                         Α1
                               20090402
                                                                  20080925 <--
PRAI US 2002-389242P
                         Ρ
                               20020617 <--
    US 2003-477987P
                         Ρ
                               20030611
                                        <--
    US 2003-462927
                         В1
                               20030617
    WO 2003-US18945
                               20030617
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
    MARPAT 140:47522
OSC.G
       3
             THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
RE.CNT 3
             THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
```

- L13 ANSWER 14 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI a process of forming and modifying pharmaceutical particles

ALL CITATIONS AVAILABLE IN THE RE FORMAT

AΒ The present invention relates to processes for forming particles containing drugs in a solution, changing the bulk or surface properties of a drug particle, and/or microencapsulating drug particles, and compns. produced thereby. In some embodiments, the process described utilizes mech. agitation, more specifically low-frequency sonication, under controlled conditions, which provides mild shear forces during forming and/or precipitation to control the particle growth and mixing properties. Particle size can range from <200 nm to >1 mm, depending on the processing conditions and application. The process can be used to form a drug particle suspension, dry a wet powder slurry or suspension, as well as to improve the surface properties of the particle through conditioning the structure of the particle or particle surface and/or annealing the particle or particle surface. Annealing or conditioning drug particles may be used to force an amorphous to crystalline transition, creating a more stable powder, or smooth a particle surface. In addition, the process can be used to microencapsulate particles by suspending the microparticles in a non-solvent including a coating material (such as a biodegradable polymer) under controlled process conditions. The powder compns. produced thereby possess improved properties including, but not limited to, improved flow and dispersibility, controlled bioadhesion, stability, resistance to moisture, dissoln./release profiles, and/or bioavailabilities. This process, and the compns. produced, provide significant advantages in the manufacture of pharmaceutical particulate formulations, as well as biomedical, diagnostic, and chromatog. particulate compns., where sensitive macromols., such as proteins or DNA, are involved that would be degraded using more rigorous processing conditions or temps. Thus, a solution of 10 g

```
A white powder was obtained containing particles of the size <10
     μ.
     2003:875089 HCAPLUS <<LOGINID::20100623>>
ΑN
DN
     139:354491
TI
     a process of forming and modifying pharmaceutical particles
IN
     Talton, James D.; McConville, Christopher
PΑ
SO
     PCT Int. Appl., 34 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 1
     PATENT NO.
                          KIND DATE
                                           APPLICATION NO.
     PΙ
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
              CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
              LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
AU 2003263024 A1 20031110 AU 2003-263024 20030423 <--
US 20050175707 A1 20050811 US 2005-512345 20050419 <--
PRAI US 2002-374844P P 20020423 <--
WO 2003-US11488 W 20030423 <--
              THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
OSC.G 1
RE.CNT 3
               THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 15 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
     Inhalable sustained-release pharmaceutical formulations
     The present invention is based, in part, on the unexpected discovery that
AΒ
     particles for pulmonary delivery of a therapeutic, prophylactic
     or diagnostic agent comprising a phospholipid and leucine can produce
     sustained effect of the agent. Specifically, particles for
     pulmonary delivery of a therapeutic, prophylactic or diagnostic
     agent that contain a phospholipid or a combination of phospholipids,
     wherein the phospholipid or combination of phospholipids is present in the
     particles in an amount of about 1-46%; and leucine, wherein leucine is
     present in the particles in an amount of at least 46%, can contribute to
     sustained effect of the agent. Particles that comprise at least 46%
     leucine but that do not contain phospholipids do not exhibit these same
     sustained-release properties. Thus, a composition contained leucine 46, DPPC
     46, and albuterol sulfate 8%.
     2003:777510 HCAPLUS <<LOGINID::20100623>>
ΑN
DN
     139:296969
     Inhalable sustained-release pharmaceutical formulations
ΤI
ΙN
     Basu, Sujit K.; Caponetti, Giovanni; Clark, Robert; Elbert, Katharina J.
     Advanced Inhalation Research, Inc., USA
PA
     PCT Int. Appl., 94 pp.
SO
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 2
                    KIND DATE APPLICATION NO. DATE
     PATENT NO.
```

lactose and 0.2 g leucine in water was agitated at 300-400 Torr for 24 h.

```
WO 2003079885
                        A2
РΤ
                                20031002 WO 2003-US8537
                                                                   20030319 <--
     WO 2003079885
                         А3
                               20040212
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT,
             TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     CA 2478974
                        A1
                             20031002 CA 2003-2478974 20030319 <--
                                20031008
                                          AU 2003-230689
     AU 2003230689
                         Α1
                                                                   20030319 <--
    AU 2003230689
                        В2
                                20060629
     EP 1487411
                         A2
                               20041222
                                           EP 2003-723779
                                                                   20030319 <--
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
                         Τ
                               20050714 JP 2003-577722 20030319 <--
     JP 2005520843
     AU 2006220411
                                20061012
                                           AU 2006-220411
                                                                   20060920 <--
                         Α1
     AU 2006220411
                         В2
                                20080626
PRAI US 2002-366354P
                         Ρ
                                20020320 <--
     US 2002-366440P
                         Ρ
                                20020320
                                         <--
    JayP
J2-366470P
US 2002-366479P
US 2002-366487P
AU 2003-230689
WO 2003-US8537
I 3
                         Ρ
                                20020320
                         Ρ
                                20020320
                         Ρ
                                20020320
                        P
                                20020320
                        A3
                             20030319
                                         <--
                         W
                                20030319
                                         <--
RE.CNT 3
             THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 16 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Inhalable formulations for sustained release
TΙ
     The present invention is based, in part, on the unexpected discovery that
AΒ
     aerosol particle formulations for pulmonary delivery
     of a therapeutic, prophylactic or diagnostic agent comprising an asym.
     phospholipid exhibit sustained release and/or sustained action of the
     agent. In some embodiments, as an alternative to one or more asym.
     phospholipids or in addition to one or more asym. phospholipids, the instant
    particles comprise one or more glycerol fatty acid esters. The present
     invention is directed to spray dried non-polymeric particles for
     pulmonary delivery and sustained release of a therapeutic,
     prophylactic or diagnostic agent. In one embodiment, the particles
     comprise a combination of phospholipids wherein at least one of the
     phospholipids is an asym. phospholipid. In another embodiment, the
     particles comprise one or more phospholipids and one or more glycerol
     fatty acid esters. For example, a dry powder particle
     formulation contained 76% stearoylpalmitoyl phosphatidylcholine, 16%
     leucine, and 8% albuterol sulfate.
     2003:696715 HCAPLUS <<LOGINID::20100623>>
AN
DN
     139:219343
ΤI
     Inhalable formulations for sustained release
     Basu, Sujit K.; Elbert, Katharina; Hrkach, Jeffrey; Caponetti, Giovanni
ΙN
     Advanced Inhalation Research, Inc., USA
PA
SO
     PCT Int. Appl., 76 pp.
     CODEN: PIXXD2
    Patent
DT
LA
    English
FAN.CNT 1
```

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

```
A1 20030904 WO 2003-US5105
     WO 2003072080
                                                                        20030220 <--
PΙ
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
              CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
              GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
              LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
              PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
              UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
          RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
              KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
              FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF,
              BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     AU 2003215334 A1 20030909 AU 2003-215334 20030220 <-- US 20030232019 A1 20031218 US 2003-371398 20030220 <--
PRAI US 2002-359466P P
                                 20020222 <--
     US 2002-427845P P 20021120 <--
WO 2003-US5105 W 20030220 <--
               THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
OSC.G
RE.CNT 3
               THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 17 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
     Particles for inhalation having rapid release properties
AΒ
     The invention generally relates to formulations having particles
     comprising phospholipids, bioactive agent and excipients and the
     pulmonary delivery thereof. Dry powder inhaled
     insulin formulations are disclosed. Improved formulations comprising
     DPPC, insulin and sodium citrate which are useful in the treatment of
     diabetes are disclosed. Also, the invention relates to a method of for
     the pulmonary delivery of a bioactive agent comprising
     administering to the respiratory tract of a patient in need of treatment,
     or diagnosis an effective amount of particles comprising a bioactive agent
     or any combination thereof in association, wherein release of the agent from
     the administered particles occurs in a rapid fashion. Formulation of a
     dry powder inhalant containing DPPC 70, leucine 10, and
     insulin 20% is disclosed.
ΑN
     2003:512067 HCAPLUS <<LOGINID::20100623>>
DN
     139:74074
     Particles for inhalation having rapid release properties
ΤI
     Schmitke, Jennifer L.; Chen, Donghao; Batycky, Richard P.; Edwards, David
PΑ
     Advanced Inhalation Research, Inc., USA
SO
     U.S. Pat. Appl. Publ., 30 pp., Cont.-in-part of U.S. Ser. No. 888,126.
     CODEN: USXXCO
DT
     Patent
LA
     English
FAN.CNT 11
     PATENT NO. KIND DATE APPLICATION NO. DATE
     US 20030125236 A1 20030703 US 2002-179463 20020624 <---
US 20020141946 A1 20021003 US 2001-888126 20010622 <---
EP 1797902 A2 20070620 EP 2006-76387 20011218 <---
PΙ
                               20071003
     EP 1797902
                           АЗ
         R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC,
              NL, PT, SE, TR
     US 20080039366
                      A1
                                 20080214
                                              US 2006-436404
                                                                        20060518 <--
JP 2006249099 A 20060921 JP 2006-162862 20060612 <--
AU 2006243885 A1 20061214 AU 2006-243885 20061128 <--
AU 20080226730 A1 20080918 US 2007-860302 20070924 <--
PRAI US 2000-752109 B2 20001229 <--
```

```
US 2001-888126 A2 20010622 <--
AU 2002-230993 A3 20011218 <--
     EP 2001-991253
                        A3 20011218 <--
                        A3 20011218 <--
     JP 2002-554139
     AU 2002-350606
                         A3 20020624 <--
                        B1 20020624 <--
A1 20020723 <--
     US 2002-179463
     US 2002-202616
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
    ANSWER 18 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Pulmonary delivery of aminoglycosides
ΤI
     The present invention is directed to the administration of
AΒ
     aminoglycosides. In particular, the present invention is directed to
     compns. and methods for the pulmonary administration of
     aminoglycosides. According to a preferred embodiment, compns. and methods
     are provided for the localized treatment of respiratory infections. Dry
     powder compns. containing gentamicin were prepared by mixing gentamicin
     sulfate and excipients (e.g., L-leucine) with a liquid medium to form a
     solution The solution was spray dried to give a powder composition
     2003:511125 HCAPLUS <<LOGINID::20100623>>
ΑN
DN
     139:74044
     Pulmonary delivery of aminoglycosides
TΙ
ΙN
     Tarara, Thomas E.; Weers, Jeffry G.; Venthoye, Geraldine
PΑ
     Nektar Therapeutics, USA
SO
     PCT Int. Appl., 39 pp.
     CODEN: PIXXD2
     Patent
DT
LA
     English
FAN.CNT 1
     PATENT NO. KIND DATE APPLICATION NO. DATE
     WO 2003053411
                         A1 20030703 WO 2002-US41733 20021219 <--
PΙ
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     CA 2468958
                       A1 20030703 CA 2002-2468958
                                                                   20021219 <--
                               20030709 AU 2002-361897
     AU 2002361897
                         A1
                                                                   20021219 <--
                         A1
                               20030710 US 2002-327510
     US 20030129140
                                                                   20021219 <--
     US 7368102
                         В2
                               20080506
     EP 1458360
                         A1 20040922
                                           EP 2002-797527
                                                                    20021219 <--
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
                     T
B1
                                          JP 2003-554170 20021219 <--
     JP 2005514393
                                20050519
     KR 958235
                                20100517
                                            KR 2004-709770
                                                                   20021219 <--
MX 2004005865 A 20040913 M2
US 20080063606 A1 20080313 US
PRAI US 2001-342827P P 20011219 <--
US 2002-327510 A1 20021219 <--
WO 2002-US41733 W 20021219 <--
                                           MX 2004-5865 20040616 <--
US 2007-981986 20071031 <--
                                            MX 2004-5865
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 1
              THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT 3
              THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
```

```
L13 ANSWER 19 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
    Spray drying methods for powder blends
ΤT
AB
```

A method and apparatus are provided for atomizing a liquid under dispersal conditions suitable for spray drying at a com. plant scale. In one embodiment, a liquid atomizer has a structural body adapted for connection with a spray dryer and a plurality of atomizing nozzles. Each of the atomizing nozzles includes a liquid nozzle adapted to disperse a supply of liquid and a gas nozzle adapted to disperse a supply of gas. In another embodiment, a process for producing a powder blend of at least two target substances, e.g., a corticosteroid and a β -blocker, in a single processing step is provided. Blending capabilities were evaluated using buffer solns. consisting of monobasic sodium phosphate or dibasic sodium phosphate with leucin in a 1:1 ratio at 1% total solids concentration

ΑN 2003:356227 HCAPLUS <<LOGINID::20100623>>

138:358554 DΝ

Spray drying methods for powder blends ΤI

Snyder, Herman E.; Vosberg, Michael J.; Varga, Christopher M. IN

Inhale Therapeutic Systems, Inc., USA PA

PCT Int. Appl., 55 pp. SO

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

```
APPLICATION NO.
    PATENT NO.
                      KIND DATE
                              _____
                                         _____
                      ____
                                       WO 2002-US34909
                                                               20021031 <--
    WO 2003037303
                       A1
                             20030508
PΙ
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
            GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
            PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
            UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
            KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
            FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,
            CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                       A1 20030508 CA 2002-2464656
    CA 2464656
                                                                20021031 <--
    AU 2002342241
                       A1
                             20030512 AU 2002-342241
                                                                20021031 <--
    AU 2002342241
                       В2
                             20070719
    US 20030124193
                       A1 20030703 US 2002-284960
                                                                20021031 <--
    EP 1446104
                       A1
                             20040818
                                        EP 2002-776395
                                                                20021031 <--
                            20080716
    EP 1446104
                        В1
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK
                                                                20021031 <--
    JP 2005511555
                        Т
                              20050428
                                         JP 2003-539647
    AT 401058
                                                                20021031 <--
                        Т
                                          AT 2002-776395
                              20080815
    EP 1992335
                                         EP 2008-160325
                                                                20021031 <--
                             20081119
                        Α1
        R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT,
            LI, LU, MC, NL, PT, SE, SK, TR, AL, LT, LV, MK, RO, SI
                              20100409
                                        KR 2004-706672
                                                                20021031 <--
    KR 951750
                        В1
    MX 2004004091
                        Α
                              20040708
                                          MX 2004-4091
                                                                20040429 <--
                                          AU 2007-202862
    AU 2007202862
                        Α1
                              20070712
                                                                20070620 <--
                   A1
P
A3
    AU 2009202578
                              20090716
                                         AU 2009-202578
                                                                20090626 <--
PRAI US 2001-336538P
                              20011101
                                       <--
    AU 2002-342241
                              20021031
                                       <--
    EP 2002-776395
                       А3
                            20021031 <--
    WO 2002-US34909 W
AU 2007-202862 A3
    WO 2002-US34909
                            20021031 <--
20070620
```

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS) OSC.G 3

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
L13 ANSWER 20 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
    The use of proton sequestering agents in drug formulations
AΒ
    Methods are provided for preparing spray-dried, drug-containing particles with
    improved stability comprising the steps of: (a) selecting a drug, e.g., a
    therapeutic protein, an aqueous solution, and a proton-sequestering agent; (b)
    adding the drug and the proton-sequestering agent to the solution to form a
    feed solution; and (c) spray drying the feed solution to form the spray-dried,
    drug-containing particles, wherein at least a portion of the
    proton-sequestering agent remains mixed with the drug in the spray-dried,
    drug containing particles. Proton sequestering agents are selected from amino
    acids, oligopeptides, short-chain fatty acids, and carboxylic acid salts.
    Particles and pharmaceutical formulations comprising the prepared particles
    as well as methods of use are also provided. For example, to control the
    degradation rate of parathyroid hormone by decreasing the amount of protons
(and
    water) relative to the amount of the drug, a formulation containing 0.8%
    parathyroid hormone, 79.2% sucrose, 20% leucine, and 2% disodium citrate
    was prepared at pH 4, having a 0.5% total solids with a volume of 50 mL. The
    resulting powder contains 2 mg (0.49 \mu mol) parathyroid
    hormone, 193 mg (564 \mumol) sucrose, 50 mg (12 \mumol) leucine, 5 mg
     (21 \mumol) disodium citrate, and 5 \mumol of acid.
ΑN
    2003:334889 HCAPLUS <<LOGINID::20100623>>
DN
    138:343903
ΤI
    The use of proton sequestering agents in drug formulations
    Lehrman, S. Russ; Chiang, Hi-Shi; Kuo, Mei-Chang; Zhang, Jiang;
ΙN
    Lechuga-Ballesteros, David
PA
    Inhale Therapeutic Systems, Inc., USA
    PCT Int. Appl., 44 pp.
SO
    CODEN: PIXXD2
DT
    Patent
    English
LA
FAN.CNT 1
    PATENT NO.
                      KIND DATE
                                         APPLICATION NO.
                                                                DATE
                       ____
                             -----
                                          ______
    WO 2003035051 A2 20030501 WO 2002-US33017 WO 2003035051 A3 20040311
                                                                20021016 <--
PΙ
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
            GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
            PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
            UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
            KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
            FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF,
            CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                            20030506 AU 2002-335046
    AU 2002335046
                        A1
                                          US 2004-493182
                                                                  20021016 <--
    US 20050013867
                         Α1
                               20050120
                                                                  20040909 <--
                               20011019 <--
PRAI US 2001-330074P
                         Р
                     M
    WO 2002-US33017
                               20021016
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
             THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
             THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 21 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
    Modulating charge density to produce improvements in the characteristics
ΤT
    of spray-dried proteins
```

Methods are provided for preparing spray-dried, drug-containing particles

AΒ

comprising the steps of selecting (i) a drug and an optional excipient, wherein the combination of the drug and optional excipient has an effective pI, and (ii) an aqueous solution having a pH that is different from the

effective pI; (b) combining the solution and the drug and optional excipient, wherein an absolute net charge is associated with the drug and optional excipient

as a result of an absolute difference between the pH and effective pI; and (c) spray drying the solution to form the spray-dried, drug-containing particles. Particles and compns. comprising the prepared particles as well as methods of use are also provided. For example, 1 mg/mL of interferon- β was mixed with 9 mg/mL raffinose and titrated with HCl to pH 4.0. The solution was spray dried to form particles for pulmonary delivery with ED of 67%.

AN 2003:334869 HCAPLUS <<LOGINID::20100623>>

DN 138:343893

- TI Modulating charge density to produce improvements in the characteristics of spray-dried proteins
- IN Lehrman, S. Russ; Stevenson, Cynthia; Yang, Bing
- PA Inhale Therapeutic Systems, Inc., USA
- SO PCT Int. Appl., 44 pp. CODEN: PIXXD2
- DT Patent
- LA English

	PAT	TENT :	KIND DATE					APPL	ICAT	DATE									
ΡI	WO	2003	0350	28		A1		20030501		1	WO 2	002-	 US33	20021016 <					
		W:	ΑE,	AG,	AL,	ΑM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,	
			CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FΙ,	GB,	GD,	GE,	GH,	
			GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KP,	KR,	KΖ,	LC,	LK,	LR,	
			LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,	
			PL,	PT,	RO,	RU,	SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TN,	TR,	TT,	TZ,	
			UA,	UG,	US,	UZ,	VC,	VN,	YU,	ZA,	ZM,	ZW							
		RW:	GH,	GM,	KE,	LS,	MW,	MΖ,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	ΑZ,	BY,	
			KG,	KΖ,	MD,	RU,	ΤJ,	TM,	ΑT,	BE,	BG,	CH,	CY,	CZ,	DE,	DK,	EE,	ES,	
			FΙ,	FR,	GB,	GR,	ΙE,	ΙΤ,	LU,	MC,	NL,	PT,	SE,	SK,	TR,	BF,	ΒJ,	CF,	
			CG,	CI,	CM,	GΑ,	GN,	GQ,	GW,	ML_{\prime}	MR,	NE,	SN,	TD,	ΤG				
	ΑU	2002	3350	45		A1 20030506					AU 2	002-	3350	20021016 <					
	US	2005	0123	509		A1		2005	0609	US 2004-493181 20041102									
PRAI	US	2001	-330	073P		Р		2001	1019	<	-								
	WO	2002	-US3	3016		W		2002	1016	<	_								
ASSI	GNMI	ENT H	ISTO:	RY F	OR U	S PA'	TENT	AVA	ILAB:	LE I	N LSI	JS D	ISPL.	AY F	ORMA'	Γ			
OSC.	G	3	TH	ERE .	ARE .	3 CA1	PLUS	REC	ORDS	THA'	T CI	TE T	HIS :	RECO:	RD (3 CI	TING	S)	
RE.C	ΝТ	7	TH	ERE .	ARE	7 CI	ΓED	REFE:	RENC	ES A	VAIL	ABLE	FOR	THI	S RE	CORD			
			AL	r Ci.	TATI	NS 2	AVAI	LABL:	E IN	THE	RE I	FORM	ΑT						

- L13 ANSWER 22 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Dry powder inhalation system for transpulmonary administration
- AB It is intended to provide a novel dry powder inhalation system for transpulmonary administration. This dry powder inhalation system for transpulmonary administration contains a single dose of the active ingredient and is characterized by comprising a combination of a container packed with a freeze-dried composition having the following properties: (i) being in the form of a non-powder cake; (ii) having a decay index of \geq 0.015; and (iii) upon an air impact having an air speed of at least 1 m/s and an air flow rate of at least 17 mL/s, being disintegrated into fine particles having an average particle diameter of \leq 10 μ m or an effective particle ratio of \geq 10%; with a device provided with means

of imparting the above air impact to the freeze-dried composition in the above container and means of discharging the powdery freeze-dried composition having been disintegrated into fine particles from the container. A freeze-dried cake was prepared from interferon- α and isoleucine, and applied to an inhaler of the present invention for transpulmonary powder administration.

- AN 2002:977700 HCAPLUS <<LOGINID::20100623>>
- DN 138:44733
- TI Dry powder inhalation system for transpulmonary administration
- IN Yamashita, Chikamasa; Ibaragi, Shigeru; Fukunaga, Yuichiro; Akagi, Akitsuna
- PA Otsuka Pharmaceutical Co., Ltd., Japan
- SO PCT Int. Appl., 121 pp. CODEN: PIXXD2
- DT Patent
- LA Japanese
- FAN.CNT 2

r AIN.		ENT	NO.			KIND DATE					APPL	DATE								
PI	WO	2002 W:	AE, CO, GM, LT, PT,	AG, CR, HR, LU, RO,	CU, HU, LV, RU,	A1 AM, CZ, ID, MA, SD,	AT, DE, IL, MD, SE,	2002 AU, DK, IN, MG, SG, ZM,	1227 AZ, DM, IS, MK, SI,	BA, DZ, JP, MN,	BB, EC, KE, MW,	BG, EE, KG, MX,	BR, ES, KR, MZ,	BY, FI, KZ, NO,	GB, LC, NZ,	CA, GD, LK, OM,	GE, LR, PH,	CN, GH, LS, PL,		
		RW:	CY,	DE,	DK,	ES,	FI,	MZ, FR, CM,	GB,	GR,	IE,	ΙΤ,	LU,	MC,	NL,	PT,	SE,	TR,		
	EG	G 24184						2008		,	EG ²	SN, TD, TG 20020612 <								
		2449				A1		2002	1227		CA 2		20020612 < 20020614 <							
	ΑU	2002	3112	13		A1		2003	0102		AU 2	002-	20020614 <							
		2002		13		В2		2007												
	EΕ	2004	0000	11		A		2004	0216		EE 2	004-	20020614 <							
	EE	4956				A B1		2008	0215											
	EP 1402913							2004	0331		EP 2	002-	7361	05		2	0020	614	<	
	ΕP	1402	913			В1		2006	0823											
		R:						ES,					LI,	LU,	NL,	SE,	MC,	PT,		
			ΙE,	SI,	LT,	LV,	FΙ,	RO,	MK,	CY,	AL,	TR								
	CN 1516606				A 20040728					CN 2	002-	8119	41		2	0020	614	<		
		1004		7		С		2008	1022											
	BR	2002	0104					2004	0817											
	HU	2004	0002	17		A2		2004	0928		HU 2	004-	217							
		5300				A		2005 2006	0930		NZ 2	002-		200206						
	ΕP	1688				A1		2006	0809		EP 2	006-	1099			0020				
		R:						ES,	•		•		LI,	LU,	NL,	SE,	MC,	PT,		
				SI,	LT,		FI,	RO,		CY,	AL,	TR		_						
		1688				A2		2006			EP 2	006-	1099	3		2	0020	614	<	
	EP	1688	_			_A3		2009	_	~-						~-				
		R:						ES,					Ll,	LU,	ΝL,	SE,	MC,	PT,		
	- m	2260		SI,	LT,		F. T ,	RO,					D0.61	0.5		0	0000	C 1 1		
		3369				Τ		2006			AT 2						0020			
		1402				E		2006									0020			
		2271	266			T3 A B2		2007 2008	0416		ES Z	002-	/36I	05		2	0020			
		1861	270			A		2008	1111		AP Z	003-	2945	20		2	0020			
	US	7448	3/9			BZ		2008	1111		US Z	002-	1/03	39		20020614 < 20020614 <				
	ΤL	1590 1013 2003	Q () ()	0		A		2009	0210		IL 2	002-	1001	δU 4024		2				
	CN	TOT3	0098	ブ E ハ		A		2009	1200		CN 2 ZA 2	008-	TUZT	4934		2	0020	200	<	
	ZA	2003	0095	3U 130		A		2004	1209		ZA Z IN 2	003-	900U	2.0						
	ΤIΛ	2003	שועע	тЭΩ		А		2006	$0 \perp \angle 0$		TIN Z	003-	ЛИΖТ	5 0		2	0031	∠∪Y	<	

```
MX 2003011541 A
NO 2003005554 A
KR 815216
                                              20090220
                                                             MX 2003-11541
                                               20040319
                                                                                                   20031211 <--
                                               20040212
                                                               NO 2003-5554
                                                                                                   20031212 <--
       KR 815216 B1 20080319 KR 2003-716433
BG 108517 A 20050228 BG 2004-108517
HR 2004000033 A2 20040831 HR 2004-33
HR 2004000033 B1 20071130
JP 4258647 B2 20090430 JP 2004-236727
                                                                                                 20031215 <--
                                                                                                   20040108 <--
                                                                                                   20040114 <--
                                                             JP 2004-236727
                                                                                                   20040816 <--
                                A1 20090605 HK 2004-109711
A 20070509 KR 2007-709246
       HK 1066748
                                                                                                   20041208 <--
       KR 2007048813
                                                                                                   20070423 <--
                                  B1 20090709
A 20070514
       KR 906754
      KR 2007050105 A 20070514 KR 2007-709245
KR 907333 B1 20090713
AU 2008200583 A1 20080228 AU 2008-200583
US 20090126732 A1 20090521 US 2008-202220
US 20090095293 A1 20090416 US 2008-202221
IN 2009DN00786 A 20090529 IN 2009-DN786
JP 2001-182504 A 20010615 <--
JP 2001-400871 A 20011228 <--
JP 2002-111131 A 20020412 <--
AU 2002-311213 A3 20020614 <--
EP 2002-736105 A3 20020614 <--
EP 2002-736105 A3 20020614 <--
US 2002-170339 A1 20020614 <--
US 2002-JP5955 W 20020614 <--
JP 2002-363158 T 20021213 <--
IN 2003-DN2138 A3 20031209 <--
KR 2003-716433 A3 20031215 <--
GNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FOR
                                            20070514
       KR 2007050105
                                                               KR 2007-709245
                                                                                                   20070423 <--
                                                                                                   20080207 <--
                                                                                                  20080830 <--
                                                                                                  20081010 <--
                                                                                                  20090202 <--
PRAI JP 2001-182504
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
                    THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
OSC.G 1
                    THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 17
                    ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 23 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
       GLP-1 formulations with protracted time action
       The present invention encompasses compns. wherein a GLP-1 compound is
AΒ
       complexed with a basic polypeptide. The compns. provide a prolonged
       duration of action and can be administered by the pulmonary
ΑN
       2002:946049 HCAPLUS <<LOGINID::20100623>>
DN
       138:44696
ΤI
       GLP-1 formulations with protracted time action
ΤN
       Defelippis, Michael Rosario; Havel, Henry Acken; Mace, Kenneth Francis;
       Ng, Kingman; Sarin, Virender Kumar
       Eli Lilly and Company, USA
PΑ
       PCT Int. Appl., 89 pp.
SO
       CODEN: PIXXD2
DT
       Patent
       English
LA
FAN.CNT 1
```

KIND DATE APPLICATION NO. DATE PATENT NO. ____ _____ ______ A2 WO 2002-US15137 WO 2002098348 20021212 20020521 <--PΙ A2 20021212 A3 20050421 WO 2002098348 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

```
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
            CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
    AU 2002308706
                         Α1
                               20021216 AU 2002-308706
                                                                  20020521 <--
    JP 2005506956
                         Τ
                               20050310
                                           JP 2003-501390
                                                                  20020521 <--
                         Α2
                               20050622
                                          EP 2002-776560
                                                                  20020521 <--
    EP 1542712
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI, CY, TR
                                        US 2003-477034
    US 20050043228
                        A1
                               20050224
                                                                  20031106 <--
    US 7144863
                         В2
                               20061205
PRAI US 2001-295282P
                        Ρ
                               20010601 <--
    WO 2002-US15137
                         W
                               20020521 <--
    MARPAT 138:44696
             THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
OSC.G
RE.CNT 3
             THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 24 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
L13
    Particles for inhalation having rapid release properties
ΤI
AΒ
    The invention generally relates to formulations having particles
    comprising phospholipids, bioactive agent and excipients and the
    pulmonary delivery. Dry powder inhaled
    insulin formulations are disclosed. Formulations comprising DPPC, insulin
    and sodium citrate which are useful in the treatment of diabetes are
    disclosed. Also, the invention relates to a method for the
    pulmonary delivery of a bioactive agent comprising administering
    to the respiratory tract of a patient in need of treatment, or diagnosis
    an effective amount of particles comprising a bioactive agent or any
    combination thereof in association, wherein release of the agent from the
    administered particles occurs in a rapid fashion. Thus, an insulin
    powder formulation contained DPPC 70, leucine 10, and insulin 20%
    by weight
    ΑN
DN
    137:268470
    Particles for inhalation having rapid release properties
ΤI
ΙN
    Schmitke, Jennifer L.; Chen, Donghao; Batycky, Richard P.; Edwards, David
    A.; Hrkach, Jeffrey S.
    Advanced Inhalation Research, Inc., USA
PA
    U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. Ser. No. 752,109.
SO
    CODEN: USXXCO
DT
    Patent
    English
LA
FAN.CNT 11
    PATENT NO.
                                         APPLICATION NO. DATE
                       KIND DATE
                        ____
                               _____
                       A1
    US 20020141946
                               20021003
                                          US 2001-888126
PΙ
                                                                  20010622 <--
    EP 1797902
                        A2
                                          EP 2006-76387
                              20070620
                                                                  20011218 <--
                 A3 20071003
    EP 1797902
        R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC,
            NL, PT, SE, TR
    CA 2449439
                         Α1
                               20030103
                                          CA 2002-2449439
                                                                  20020624 <--
    WO 2003000202
                                          WO 2002-US20280
                         Α2
                               20030103
                                                                  20020624 <--
    WO 2003000202
                         АЗ
                               20030814
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
            LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
            PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
            UA, UG, UZ, VN, YU, ZA, ZM, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
            KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
```

```
GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
             GN, GQ, GW, ML, MR, NE, SN, TD, TG
     AU 2002350606
                                            AU 2002-350606
                        A1 20030108
                                                                    20020624 <--
     AU 2002350606
                         В2
                                20060928
     US 20030125236
                        A1
                                20030703
                                           US 2002-179463
                                                                    20020624 <--
                         A2
                                20040407
                                            EP 2002-752100
     EP 1404299
                                                                    20020624 <--
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                        A
     CN 1518441
                               20040804
                                           CN 2002-812566
                                                                    20020624 <--
     JP 2005500309
                         Τ
                               20050106
                                           JP 2003-506648
                                                                    20020624 <--
     JP 4067047
                        В2
                               20080326
    NZ 530123
                               20070126
                                           NZ 2002-530123
                                                                    20020624 <--
                        Α
    MX 2003011861 A 20040326
US 20080039366 A1 20080214
JP 2006249099 A 20060921
                                          MX 2003-11861
                                                                   20031218 <--
                                           US 2006-436404
                                                                   20060518 <--
                                          JP 2006-162862
                                                                   20060612 <--
                        A1
     AU 2006243885
                               20061214
                                           AU 2006-243885
                                                                   20061128 <--
                        В2
                               20070503
     AU 2006243885
                        A1
A1
     US 20080226730
                                          US 2007-860302
US 2007-860357
                               20080918
                                                                   20070924 <--
     US 20080227690
                               20080918
                                                                    20070924 <--
                        A2
                               20001229 <--
PRAI US 2000-752109
                               20010622 <--
                         A
     US 2001-888126
                        A3
A3
     AU 2002-230993
                               20011218 <--
                               20011218 <--
     EP 2001-991253
                               20011218
     JP 2002-554139
                         АЗ
     AU 2002-350606
                         А3
                               20020624
                         B1
     US 2002-179463
                                20020624
                                          <--
     WO 2002-US20280
                                20020624
                          W
     US 2002-202616
                         A1
                               20020723
                                          <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
L13 ANSWER 25 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Pulmonary delivery of polyene antifungal agents
TΙ
     The present invention provides spray-dried polyene antibiotic compns. for
AΒ
     oral inhalation to the lung. The compns. demonstrate superior
     aerosol properties, do not exhibit appreciable degradation of the polyene upon
     spray-drying, and are useful in the treatment and prophylaxis of both
     pulmonary and systemic fungal infections. For example, spray
     drying a nearly neutral pH aqueous solution of amphotericin B with sodium
     deoxycholate provided a powder having a good dispersibility (an
     emitted dose of greater than 70%) and a good mass median aerodynamic diameter
     (MMAD) of less than 3.0 \mu.
ΑN
     2002:539453 HCAPLUS <<LOGINID::20100623>>
DN
    137:99006
TI
     Pulmonary delivery of polyene antifungal agents
    Weickert, Michael; Gordon, Marc S.; Kumar, Sandeep; Yang, Bing; Sarwar,
ΤN
     Razaq
PA
     Inhale Therapeutic Systems, Inc., USA
     PCT Int. Appl., 57 pp.
SO
     CODEN: PIXXD2
DT
     Patent
LA
     English
FAN.CNT 15
     PATENT NO.
                        KIND
                                DATE
                                            APPLICATION NO.
                        ____
                                _____
                                            _____
    ... 2002054868 A2
WO 2002054868 A3
                        A2 20020718
A3 20030327
                                           WO 2001-US50241
                                                                    20011221 <--
PΙ
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
```

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,

```
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB,
             GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA,
             GN, GQ, GW, ML, MR, NE, SN, TD, TG
     US 6630169
                               20031007
                                            US 2000-720536
                                                                   20001222 <--
                         В1
     CA 2432319
                         Α1
                                20020718
                                            CA 2001-2432319
                                                                   20011221 <--
     AU 2002245181
                         Α1
                                20020724
                                            AU 2002-245181
                                                                   20011221 <--
     AU 2002245181
                          В2
                                20060629
     EP 1343372
                         A2
                                20030917
                                            EP 2001-993340
                                                                   20011221 <--
            AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
     JP 2004517127
                         Τ
                                20040610
                                           JP 2002-555618
                                                                   20011221 <--
    AU 2002318867
                         Α1
                                20030410
                                            AU 2002-318867
                                                                   20021210 <--
    MX 2003005655
                                20041203
                                            MX 2003-5655
                                                                   20030620 <--
                         Α
     KR 743404
                                20070730
                                            KR 2003-708493
                                                                   20030621 <--
                         В1
                                20060216
                                           AU 2006-200277
     AU 2006200277
                                                                   20060123 <--
                         Α1
     AU 2006200277
                         В2
                                20080410
     AU 2006200768
                         A1
                                20060316
                                           AU 2006-200768
                                                                   20060224 <--
     AU 2006200768
                         В2
                                20080717
     AU 2006222737
                         Α1
                                20061019
                                            AU 2006-222737
                                                                   20060928 <--
     AU 2009212804
                         Α1
                                20090917
                                           AU 2009-212804
                                                                   20090826
PRAI US 2000-257613P
                         Ρ
                                20001221
                                         <--
     AU 1999-10644
                         АЗ
                                19980929
                                         <--
     WO 1999-US6855
                         W
                                19990331
                         А3
     AU 2001-61246
                                20010508
     WO 2001-US50241
                         W
                                20011221
     AU 2002-318867
                         А3
                                20021210
                                          <--
     AU 2003-204270
                         А3
                                20030520
                                          <--
                         АЗ
     AU 2006-236049
                                20061115
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
```

- OSC.G 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

 ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L13 ANSWER 26 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Particles for inhalation having sustained release properties containing positively charged lipids
- The invention generally relates to a method for pulmonary delivery of therapeutic, prophylactic and diagnostic agents to a patient wherein the agent is released in a sustained fashion, and to particles suitable for use. In particular, the invention relates to a method for the pulmonary delivery of a therapeutic, prophylactic or diagnostic agent comprising administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of particles comprising a therapeutic, prophylactic or diagnostic agent or any combination thereof in association with a charged lipid, wherein the charged lipid has an overall net charge which is opposite to that of the agent upon association with the agent. Release of the agent from the administered particles occurs in a sustained fashion. In vivo release data showed that powder formulations comprising insulin and pos. charged lipids (1,2-dipalmitoyl-sn-glycero-3-ethylphosphocholine or 1,2-distearoyl-sn-glycero-3-ethylphosphocholine) have lower initial burst of insulin than that seen with powder formulations comprising insulin and DPPC and sustained elevated levels at 6-8 h.
- AN 2002:521543 HCAPLUS <<LOGINID::20100623>>
- DN 137:83673
- TI Particles for inhalation having sustained release properties containing positively charged lipids
- IN Basu, Sujit K.; Hrkach, Jeffrey S.; Lipp, Michael; Elbert, Katharina; Edwards, David A.

Advanced Inhalation Research, Inc., USA PΑ SO PCT Int. Appl., 56 pp. CODEN: PIXXD2 Patent DT LA English FAN.CNT 11 PATENT NO. KIND DATE APPLICATION NO. DATE _____ ----WO 2002053190 A2 20020711 WO 2001-US48956 WO 2002053190 A3 20030327 PΙ 20011218 <--W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG A1 20020711 CA 2433335 CA 2001-2433335 20011218 <--C A1 B2 20100420 CA 2433335 AU 2002230993 20020716 AU 2002-230993 20011218 <--20020716 AU 2002230993 20030924 EP 1345629 A2 EP 2001-991253 20011218 <--R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR 20050217 JP 2002-554139 20011218 <--JP 2005504715 T A2 20070620 A3 20071003 EP 1797902 EP 2006-76387 20011218 <--EP 1797902 R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR US 20080039366 A1 20080214 US 2006-436404 20060518 <--20060921 JP 2006-162862 20061214 AU 2006-243885 JP 2006249099 A 20060612 <--AU 2006243885 A1 20061214 20061128 <--AU 2006243885 B2 20070503 PRAI US 20002-230993 A3 20011218 <-EP 2001-991253 A3 20011218 <-JP 2002-554139 A3 20011218 <-WO 2001-US48956 W 20011218 <--ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT MARPAT 137:83673 OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS) RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT L13 ANSWER 27 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN ΤI Inhalable aztreonam for treatment and prevention of pulmonary bacterial infections A method and a composition are described for the treatment of pulmonary bacterial infections caused by gram-neg. bacteria. The invention also relates to the treatment of infection caused by microorganisms such as Escherichia coli, Klebsiella pneumoniae, Pseudomonas aeruginosa, Haemophilus influenzae, Burkholderia cepacia, Stenotrophomonas maltophilia, and multidrug resistant Pseudomonas aeruginosa by using a concentrated formulation of aztreonam, or a salt delivered as an aerosol or dry powder formulation. A purified aztreonam or a salt is milled to a

powder having mass median average diams. ranging 1-5 μ by media

milling, jet milling, spray drying, or particle precipitation techniques. Spray drying is achieved by spraying a fine mist of drug solution onto a support and drying the particles. The dry powder formulations are temperature stable and have a physiol. acceptable pH of 4.0-7.5, preferably 5.5 to 7.0, and long shelf-lives. 2002:504571 HCAPLUS <<LOGINID::20100623>> ΑN DN137:83631 ΤI Inhalable aztreonam for treatment and prevention of pulmonary bacterial infections Montgomery, Alan Bruce INSalus Pharma, Inc., USA PAPCT Int. Appl., 66 pp. SO CODEN: PIXXD2 DT Patent English LA FAN.CNT 4 KIND DATE APPLICATION NO. DATE PATENT NO. _____ ____ _____ WO 2002051356 A2 20020704 WO 2001-US50062 20011220 <--PΙ A3 20021031 WO 2002051356 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG CA 2433280 A1 20020704 CA 2001-2433280 20011220 <--AU 2002231244 A1 20020708 AU 2002-231244 20011220 <--AU 2002231244 В2 20060629 EP 1353647 Α2 20031022 EP 2001-991523 20011220 <--AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR BR 2001016757 A 20031104 BR 2001-16757 20011220 <--20040603 JP 2002-552504 20011220 <--NO 2003-2946 20030626 <--US 2007-729698 20070328 <--ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS) RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT L13 ANSWER 28 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN An amino acid, a phospholipid, or a stearate additive in preparation of ΤI particles for pulmonary administration AΒ A method for making composite active particles for use in a pharmaceutical composition for pulmonary administration comprises a milling step in which particles of active material (drug) are milled in the presence of particles of an additive material, i.e., an amino acid, a phospholipid, or a metal stearate, suitable for the promotion of the dispersal of the composite active particles upon actuation of an inhaler. The invention also relates to compns. for inhalation prepared by the method. For example, 5 g of micronized salbutamol sulfate (particle size distribution 1-5 μm) and 0.5 g of magnesium

stearate were added to a stainless steel milling vessel together with 20

cm3 dichloromethane and 124 g of 3 mm stainless steel balls. The mixture was milled at 550 rpm for 5 h and the powder was recovered by drying and sieving to remove the mill balls. The procedure was repeated using leucine in place of the magnesium stearate. The powders obtained appear to have particles in the size range 0.1-0.5 μm .

AN 2002:428687 HCAPLUS <<LOGINID::20100623>>

DN 137:10986

- ΤI An amino acid, a phospholipid, or a stearate additive in preparation of particles for pulmonary administration
- Staniforth, John Nicholas; Green, Matthew Michael James; Morton, David ΙN Alexander Vodden
- PAVectura Limited, UK
- PCT Int. Appl., 41 pp. SO

CODEN: PIXXD2

DT Patent

English LA

```
FAN.CNT 11
                          KIND
                                 DATE
                                             APPLICATION NO.
     PATENT NO.
                                                                       DATE
                          ____
                                 _____
                                              ______
                                                                      _____
                                             WO 2001-GB5315
     WO 2002043701
                          A2
                                 20020606
                                                                       20011130 <--
PΙ
     WO 2002043701
                          A3
                                 20021017
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,
             UG, US, UZ, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
             CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
             BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
     WO 2001076575
                           A2
                               20011018
                                             WO 2001-GB1606
                                                                       20010409 <--
                                 20020328
     WO 2001076575
                           А3
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
             HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
             LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
             RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
             VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
              DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
              BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     CA 2429665
                           Α1
                                 20020606
                                             CA 2001-2429665
                                                                       20011130 <--
     AU 2002022115
                           Α
                                 20020611
                                              AU 2002-22115
                                                                       20011130 <--
     EP 1337240
                           Α2
                                 20030827
                                             EP 2001-998328
                                                                       20011130 <--
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                                 20040520
                                              JP 2002-545674
     JP 2004514504
                           Τ
                                                                       20011130 <--
     JP 4380988
                                  20091209
                           В2
     NZ 526059
                                 20050527
                                              NZ 2001-526059
                                                                       20011130 <--
                           Α
     AU 2002222115
                                              AU 2002-222115
                                                                       20011130 <--
                           В2
                                  20060928
     EP 2168571
                           Α2
                                 20100331
                                              EP 2009-173566
                                                                       20011130 <--
         R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC,
             NL, PT, SE, TR
     US 20040037785
                                  20040226
                                              US 2003-433072
                                                                       20030912 <--
                           Α1
     US 7736670
                           В2
                                  20100615
PRAI GB 2000-29261
                           Α
                                 20001130
                                            <--
                          Α
     GB 2000-30946
                                 20001219
                                            <--
                          W
     WO 2001-GB1606
                                 20010409
                                            <--
                              20011000
20000407
20011005
                          Α
     GB 2001-24010
                                            <--
                          Α
     GB 2000-8660
                                           <--
                         А
     GB 2001-24009
                                 20011005 <--
```

EP 2001-998327 A3 20011130 <-WO 2001-GB5315 W 20011130 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

- OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
- RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L13 ANSWER 29 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Particles for inhalation having sustained release properties
- AΒ The invention generally relates to a method for pulmonary delivery of therapeutic, prophylactic and diagnostic agents to a patient wherein the agent is released in a sustained fashion, and to particles suitable for use in the method. In particular, the invention relates to a method for the pulmonary delivery of a therapeutic, prophylactic or diagnostic agent comprising administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of particles comprising a therapeutic, prophylactic or diagnostic agent or any combination thereof in association with a charged lipid, wherein the charged lipid has an overall net charge which is opposite to that of the agent upon association with the agent. The lipid is a 1,2-diacyl-sn-glycero-3-[phospho-rac-(1-glycerol)] and a 1,2-diacyl-sn-glycerol-3-phosphate. Release of the agent from the administered particles occurs in a sustained fashion. A DPPC/citrate/insulin (60/10/30) spray drying solution was prepared by dissolving 600 mg DPPC in 600 mL of ethanol, dissolving 100 mg of sodium citrate and 300 mg of insulin in 400 mL of water and then mixing the two solns. to yield 1 L of cosolvent with a total solute concentration of 1 g/L.

The

- solution was then used to produce dry powders using an atomizer.
- AN 2002:332667 HCAPLUS <<LOGINID::20100623>>
- DN 136:345816
- TI Particles for inhalation having sustained release properties
- IN Edwards, David A.; Langer, Robert S.; Vanbever, Rita; Mintzes, Jeffrey;
 Wang, Jue; Chen, Donghao
- PA Massachusetts Institute of Technology, USA; The Penn State Research Foundation
- SO U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S. Ser. No. 394,233. CODEN: USXXCO
- DT Patent
- LA English
- FAN.CNT 11

	PA:	rent	NO.			KIND		DATE		API	PLICAT	I NOI	DZ	DATE				
PI	US	5985309			A1 20020502 A 19991116 A1 20050119			US EP	2000-1 1997-9 2004-1	19 19	20001229 < 19971117 < 19971117 <							
		R:	AT, IE,	•	CH,	DE,	DK	, ES,	FR,	GB, GI	R, IT,	LI,	LU,	NL,	SE,	MC, PI	,	
	US	6652 2003 7048	837 0118			B1 A1 B2			1125 0626		1999-3 2002-3		_			9990913 0020723		
	US US	7628 2004	977 0062			B2 A1		2009 2004	1208 0401	US	2003-	42007	71		20	0030418	<	
PRAI	US	2008 2007 1997	0014	738		A9 A1 P		2008 2007 1997		US <	2006-	52391	_4		20	0060920	<	
	US US	1997 1999 1996 1996	-394: -655	233 570		A2 A2 B2 A3		1999 1996	1117 0913 0524 1029									
		1996				A3 A1			0116	<								

```
WO 1997-US8895
                  A2
                         19970523 <--
                         19971117 <--
EP 1997-947545
                   А3
US 1998-211940
                   A2
                         19981215 <--
                   A2
US 2000-569153
                         20000511 <--
US 2000-752106
                   В1
                         20001229 <--
US 2003-420071
                   Α1
                         20030418 <--
```

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT OS MARPAT 136:345816

OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

- L13 ANSWER 30 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Particles for inhalation having insulin sustained release properties
- AB The invention generally relates to a method for pulmonary delivery of therapeutic, prophylactic and diagnostic agents to a patient wherein the agent is released in a sustained fashion, and to particles suitable for use in the method. In particular, the invention relates to a method for the pulmonary delivery of a therapeutic, prophylactic or diagnostic agent comprising administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of particles comprising a multivalent metal cation which is complexed with a therapeutic, prophylactic or diagnostic agent or any combination thereof having a charge capable of complexing with the cation upon association with the agent, a pharmaceutically acceptable carrier and optionally, a multivalent metal cation-containing component wherein the total amount of multivalent metal cation present in the particles is more than 1% weight/weight of the total weight of the agent (% weight/weight). Release of the agent from the

administered particles occurs in a sustained fashion. A composition was prepared

containing DPPC 58.8, leucine 24.4, zinc chloride 6.4, Na citrate 5.9, and insulin 4.9%.

AN 2002:221109 HCAPLUS <<LOGINID::20100623>>

DN 136:252507

TI Particles for inhalation having insulin sustained release properties

IN Edwards, David A.; Hrkach, Jeffrey S.

PA Advanced Inhalation Research Inc., USA; Alkermes, Inc.

SO U.S. Pat. Appl. Publ., 18 pp., Cont.-in-part of U.S. Ser. No. 383,054. CODEN: USXXCO

DT Patent

LA English

	PATENT NO.						D	DATE		1	APPL	ICAT	ION I	DATE							
ΡI		20020034477 7678364				A1 2002032 B2 2010031				1	 US 2	001-	8227		20010330 <						
	US	6956	021			B1				1	US 1	999-:	3830		19990825 <						
	WO	2002		A2		2002	1010	WO 2002-US9697							20020327 <						
	WO	2002078675			A3			2002	1128												
		W:	ΑE,	AG,	AL,	AM,	ΑT,	AU,	ΑZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,			
			CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,			
			GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	KΕ,	KG,	KP,	KR,	KΖ,	LC,	LK,	LR,			
			LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,			
			PL,	PT,	RO,	RU,	SD,	SE,	SG,	SI,	SK,	SL,	ΤJ,	TM,	TN,	TR,	TT,	TZ,			
			UA,	UG,	UΖ,	VN,	YU,	ZA,	ZM,	ZW											
		RW:						MZ,													
					,		•	FR,		,			,	•	,			•			
			•	•	CF,	CG,		CM,						•		•	•				
	_	J 2002303177				A1		2002				002-				20020327 <					
	US	2006	0002	996		A1		2006	1	US 2005-176841						20050707 <					

```
PRAI US 1999-383054 A2
US 1998-97796P P
                                19990825 <--
                                 19980825 <--
     US 2001-822716 A
WO 2002-US9697 W
                                 20010330 <--
                                 20020327 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
              THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
              THERE ARE 365 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 365
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
    ANSWER 31 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Inhalable spray dried 4-helix bundle protein powders having
ΤI
     minimized aggregation
AΒ
     The present invention provides highly dispersible spray-dried
     powder compns., and in particular, inhalable dry
     powder compns. for aerosolized delivery o the lungs. The powders
     of the invention are produced by spray drying a 4 \alpha-helix bundle
     protein under conditions which both: (i) protect the protein from
     aggregation and (ii) provide particles suitable for inhalation
     (i.e., demonstrating superior aerosol performance).
     2002:122759 HCAPLUS <<LOGINID::20100623>>
ΑN
DN
     136:172776
TΙ
     Inhalable spray dried 4-helix bundle protein powders having
     minimized aggregation
     Stevenson, Cynthia; Hastedt, Jayne E.; Lehrman, S. Russ; Chiang, Hi-Shi;
IN
     Bennett, David B.; Lesikar, David; Yang, Bing; Gong, David; Cabot, Kirsten
     Inhale Therapeutic Systems, Inc., USA
PΑ
SO
     PCT Int. Appl., 59 pp.
     CODEN: PIXXD2
DT
     Patent
     English
LA
FAN.CNT 6
     PATENT NO. KIND DATE APPLICATION NO. DATE
                                            _____
                        ____
     WO 2002011695
                         A2 20020214 WO 2001-US24632 20010806 <--
PΙ
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
             RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
             UZ, VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                                                   20010806 <--
     CA 2418960
                          Α1
                              20020214
                                           CA 2001-2418960
     AU 2001081113
                                 20020218
                                            AU 2001-81113
                                                                    20010806 <--
                          Α
                                           EP 2001-959572 20010806 <--
     EP 1309312
                                 20030514
                          Α2
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                                 20040527
                                             JP 2002-517033
     JP 2004515467
                         Т
                                                                     20010806 <--
                         В2
     AU 2001281113
                                             AU 2001-281113
                                                                     20010806 <--
                                 20060720
                          В
     TW 283182
                                20070701
                                             TW 2001-90119169
                                                                    20010806 <--
                        A1
B2
     US 20020065399
                                20020530
                                             US 2001-923519
                                                                     20010807 <--
                     B2
A
A1
B2
     US 6569406
                                20030527
MX 2003001092 A 20030925 MX US 20030190291 A1 20031009 US 6838075 B2 20050104 US 20050186143 A1 20050825 US 2000-223144P P 20000807 <-- US 2000-228634P P 20000829 <-- US 2000-240478P P 20001013 <-- WO 2001-US24632 W 20010806 <--
     MX 2003001092
                                 20030925
                                             MX 2003-1092
                                                                     20030204 <--
                                             US 2003-389628
                                                                     20030314 <--
                                            US 2004-991344 20041117 <--
```

US 2001-923519 A1 US 2003-389628 A1 20010807 <--20030314 <--ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT OSC.G 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (14 CITINGS) L13 ANSWER 32 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN Preparation of particles for pharmaceutical compositions A method for making composite excipient particles for use in a pharmaceutical composition comprises a milling step in which particles of an excipient material are milled in the presence of an additive material. The product particles are of small size and the milling requires relatively low input of time and energy. The composite particles are suitable for use in inhalable pharmaceutical compns. Microfine lactose was placed in a ceramic milling vessel. An additive material and the ceramic milling balls were added. The ball mill was tumbled at 60 rpm for 5 h. This was repeated a number of times with the amount of additive material varied as a percentage of the lactose from 0.25 to 20%. Additive materials used were L-leucine and magnesium stearate. The powder was recovered by sieving to remove the milling balls. 2002:10258 HCAPLUS <<LOGINID::20100623>> ΑN DN 136:74642 TΙ Preparation of particles for pharmaceutical compositions ΙN Staniforth, John Nicholas; Morton, David Alexander Vodden; Musa, Rosella PΑ Vectura Limited, UK PCT Int. Appl., 38 pp. SO CODEN: PIXXD2 Patent DT LA English FAN.CNT 11 PATENT NO. DATE KIND DATE APPLICATION NO. ----A1 20020103 WO 2001-GB2860 WO 2002000197 20010627 <--PΙ W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG WO 2001078694 A2 20011025 WO 2001-GB1732 20010417 <--WO 2001078694 A3 20020314 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG EP 2006-17742 EP 1719505 A2 20061108 20010417 <--EP 1719505 А3 20070718 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR EP 1829533 A2 20070905 EP 2007-110708 20010417 <--20071031 EP 1829533 А3 R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE, TR, AL, BA, HR, MK, YU CA 2413692 A1 20020103 CA 2001-2413692 20010627 <--

```
EP 1296651 A1 20030402 EP 2001-947612 20010627 <---
EP 1296651 B1 20071114
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
               IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
     JP 2004501183
                          T 20040115 JP 2002-504979
                                                                             20010627 <--
     AU 2001269261
                            В2
                                   20051117
                                                 AU 2001-269261
                                                                            20010627 <--
     NZ 523246
                            A
                                  20051223
                                               NZ 2001-523246
                                                                            20010627 <--
                            B1 20100325 KR 2002-717595
     KR 949539
                                                                            20010627 <--
                           A 20030805
     ZA 2002008066
                                               ZA 2002-8066
                                                                            20021008 <--
                         A 20030603 ZA 2002-8066
A 20030618 ZA 2002-10225
A 20050225 IN 2002-CN2129
A1 20070629
A1 20030828 US 2003-312488
A1 20080808 HK 2003-106950
A 20000627 <--
A 20001130 <--
     ZA 2002010225
                                                                            20021218 <--
     IN 2002CN02129
                                                                            20021223 <--
     IN 204312
     US 20030162835
                                                                            20030311 <--
     HK 1056115 A1 20080808 HF EP 2000-113608 A 20000627 <-- GB 2000-29263 A 20001130 <-- GB 2000-9469 A 20000417 <-- EP 2001-921625 A3 20010417 <-- EP 2001-931612 A3 20010417 <-- WO 2001-GB2860 W 20010627 <--
     HK 1056115
                                                                            20030926 <--
PRAI EP 2000-113608
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
                THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
OSC.G 4
RE.CNT 7
                THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
                ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 33 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
     Powders for use in a dry powder inhaler
AΒ
     A powder for use in a dry powder inhaler
     comprises an active material and an indicator material that is capable of
     indicating to a patient that a dose of the active material has been
     administered. The powder for use in an inhaler device
     and/or an inhaler device containing the powder may be such
     that a fine particle fraction of at least 35% is
     generated. Thus, a formulation contained sodium cromoglycate 50.0,
     lactose 48.5, and menthol 1.5%.
     ΑN
DN
     135:362566
     Powders for use in a dry powder inhaler
ΤI
     Staniforth, John Nicholas; Morton, David Alexander Vodden; Meakin, Brian
     John; Ganderton, David
PΑ
     Vectura Limited, UK
SO
     PCT Int. Appl., 28 pp.
     CODEN: PIXXD2
     Patent
DT
LA
     English
FAN.CNT 1
                    KIND DATE APPLICATION NO. DATE
     PATENT NO.
                            ____
                                    -----
                                                  _____
     WO 2001082906 A1 20011108 WO 2001-GB1942 20010503 <--
PΙ
          W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
              CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
               VN, YU, ZA, ZW
          RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
               DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                            A1 20030129 EP 2001-928057 20010503 <--
     EP 1278516
          R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
```

```
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
    US 20030186843 A1 20031002 US 2003-275023
                                                                 20030602 <--
                        Α
PRAI GB 2000-10709
                               20000503 <--
                       W
    WO 2001-GB1942
                               20010503 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
             THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 34 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
    Formulations containing fine lactose for use in inhaler
ΤI
    devices
    A formulation for an inhaler device comprises carrier particles
AΒ
    having a diameter of at least 50 \mu m and a mass median diameter of at least
    175 \mu m; active particles; and additive material to which is able to
    promote release of the active particles from the carrier particles on
    actuation of the inhaler device. The formulation has excellent
    flowability even at relatively high fine particle
    contents. A formulation contained lactose, salbutamol sulfate, microfine
    lactose, and leucine.
    2001:780655 HCAPLUS <<LOGINID::20100623>>
ΑN
DN
    135:335150
TΙ
    Formulations containing fine lactose for use in inhaler
    devices
    Staniforth, John Nicholas; Morton, David Alexander Vodden; Gill, Rajbir;
IN
    Brambilla, Gaetano; Musa, Rossella; Ferrarini, Lorenzo
PΑ
    Vectura Ltd., UK
SO
    PCT Int. Appl., 63 pp.
    CODEN: PIXXD2
    Patent
DT
    English
LA
FAN.CNT 11
    PATENT NO.
                   KIND DATE APPLICATION NO. DATE
                       ____
                                          ______
                              _____
    WO 2001078694 A2 20011025
WO 2001078694 A3 20020314
                                         WO 2001-GB1732
PΙ
                                                                20010417 <--
        W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
            CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,
            HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
            LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO,
            RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ,
            VN, YU, ZA, ZW
        RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
            DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
            BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                                                20010417 <--
                              20011025 CA 2001-2406201
    CA 2406201
                        A1
                                        AU 2001-48581
    AU 2001048581
                        Α
                               20011030
                                                                20010417 <--
    AU 784719
                              20060601
                        В2
                                                                20010417 <--
    GB 2363987
                        Α
                                         GB 2001-9431
                              20020116
                        Α
                                         GB 2001-9432
    GB 2363988
                               20020116
                                                                 20010417 <--
    EP 1276472
                                          EP 2001-921610
                        Α2
                               20030122
                                                                 20010417 <--
                        В1
    EP 1276472
                              20061220
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
            IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                       А
    BR 2001010141
                               20030128
                                          BR 2001-10141
                                                                 20010417 <--
                        A2
    HU 2003000490
                               20030728
                                          HU 2003-490
                                                                 20010417 <--
                        T
                              20031014
                                          JP 2001-575995
    JP 2003530425
                                                                20010417 <--
                       Α
    NZ 521887
                              20040625
                                          NZ 2001-521887
                                                                20010417 <--
                        T
                                                                 20010417 <--
    AT 339195
                              20061015
                                          AT 2001-931612
               A2
A3
                        A2 20061108
A3 20070718
    EP 1719505
                                         EP 2006-17742
                                                                20010417 <--
    EP 1719505
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
```

```
IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                         T 20070115 AT 2001-921610
                                                                                                  20010417 <--
       AT 348603
       PT 1276472
                                                                PT 2001-921610
                                                                                                 20010417 <--
                                     \mathbf{E}
                                              20070228
                                    Т3
                                           20070501
       ES 2272473
                                                              ES 2001-931612
                                                                                                 20010417 <--
                                    T3 20070616
                                                              ES 2001-921610
       ES 2275669
                                                                                                 20010417 <--
       EP 1829533
                                   A2
                                           20070905
                                                              EP 2007-110708
                                                                                                  20010417 <--
       EP 1829533
                                    А3
                                             20071031
             R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC,
                   NL, PT, SE, TR, AL, BA, HR, MK, YU
                                                             AT 2001-921625
                                             20071115
       ES 2292576
                                              20080316
                                                              ES 2001-921625
                                                                                                 20010417 <--
                                                             CA 2001-2413692
WO 2001-GB2860
       CA 2413692
                                             20020103
                                    Α1
                                                                                                 20010627 <--
       WO 2002000197
                                    A1
                                          20020103
                                                                                                 20010627 <--
             W:
                 AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
                   CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
                   GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
                   LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT,
                   RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US,
                   UZ, VN, YU, ZA, ZW
             RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
                   DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
                                     A1 20030402 EP 2001-947612
B1 20071114
       EP 1296651
                                                                                                 20010627 <--
       EP 1296651
             R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                   IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
                                                             JP 2002-504979
                                           20040115
                            Т
                                                                                                  20010627 <--
       JP 2004501183
                                                             AU 2001-269261
NZ 2001-523246
                                           20051117
                                    В2
       AU 2001269261
                                                                                                  20010627 <--
                                   A 20051223 NZ 2001-523246
T 20071115 AT 2001-947612
E 20080212 PT 2001-947612
T3 20080316 ES 2001-947612
A1 20080423 EP 2007-120591
       NZ 523246
                                                                                                  20010627 <--
                                   T
E
       AT 378039
                                                                                                  20010627 <--
       PT 1296651
                                                                                                  20010627 <--
                                                             ES 2001-947612
                         T3
       ES 2292598
                                                                                                  20010627 <--
       EP 1913939
                                                                                                  20010627 <--
             R: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LI, LU, MC,
                  NL, PT, SE, TR
       CN 100551358 C
                                             20091021
                                                               CN 2001-811888
                                                                                                  20010627 <--

      KR 949539
      B1
      20100325
      KR

      ZA 2002008066
      A
      20030805
      ZA

      NO 2002004971
      A
      20021217
      NO

      MX 2002010213
      A
      20050701
      MX

      IN 2002CN01699
      A
      20050211
      IN

      IN 211544
      A1
      20071214

      ZA 2002010225
      A
      20030618
      ZA

      US 20030162835
      A1
      20030828
      US

      US 20030175214
      A1
      20030918
      US

      GB 2000-9469
      A
      20000417
      <--</td>

      EP 2000-113608
      A
      20000627
      <--</td>

      GB 2000-29263
      A
      2001130
      <--</td>

      EP 2001-931612
      A3
      20010417
      <--</td>

      EP 2001-931612
      A3
      20010417
      <--</td>

      EP 2001-947612
      A3
      20010627
      <--</td>

      WO 2001-GB2860
      W
      20010627
      <--</td>

      GNMENT HISTORY FOR US PATENT AVAILABLE IN

       KR 949539
                                    B1 20100325
                                                              KR 2002-717595
                                                                                                 20010627 <--
                                                              ZA 2002-8066
                                                                                                 20021008 <--
                                                             NO 2002-4971
                                                                                                 20021016 <--
                                                             MX 2002-10213
                                                                                                  20021016 <--
                                                             IN 2002-CN1699
                                                                                                  20021017 <--
                                                            US 2003-312488 20030311 <--
US 2003-257790 20030505 <--
                                                              HK 2003-106950 20030926 <--
PRAI GB 2000-9469
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
                    THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)
OSC.G 5
                    THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
                    ALL CITATIONS AVAILABLE IN THE RE FORMAT
```

L13 ANSWER 35 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN TI Modulation of release from dry powder formulations

- Particles which include a bioactive agent are prepared to have a desired AΒ matrix transition temperature Delivery of the particles via the pulmonary system results in modulation of drug release from the particles. Sustained release of the drug can be obtained by forming particles which have a high matrix transition temperature, while fast release can be obtained by forming particles which have a low matrix transition temperature Preferred particles include one or more phospholipids. Thus, 20% albumin was mixed with 80% 1,2-dipalmitoyl-sn-qlycero-3phosphatidylcholine (I) or 1,2-distearoyl-sn-glycero-phosphahtdiylcholine (II) and spray-dried using 70% ethanol and 30% water. Matrix transition temperature for particles formulated with I was lower than that for particles formulated with II. ΑN 2001:152464 HCAPLUS <<LOGINID::20100623>> DN 134:198097 Modulation of release from dry powder formulations ТΤ Basu, Sujit K.; Hrkach, Jeffrey S.; Caponetti, Giovanni; Lipp, Michael M.; ΙN Elbert, Katharina; Li, Wen-I. Advanced Inhalation Research, Inc., USA PASO PCT Int. Appl., 49 pp. CODEN: PIXXD2 DT Patent LA English FAN.CNT 2 DATE PATENT NO. KIND APPLICATION NO. _____ _____ ____ _____ WO 2001013891 A2
 WO 2001013891 A3 20010301 WO 2000-US23048 20000823 <--PΙ 20010726 WO 2001013891 А3 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG A1 20010301 CA 2000-2382821 A2 20020605 EP 2000-957674 CA 2382821 20000823 <--EP 1210067 20000823 <--R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
- PRAI US 1999-150742P P 19990825 <-WO 2000-US23048 W 20000823 <-OSC.G 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

JP 2001-518029

AU 2000-69259

20000823 <--

20000823 <--

20030225

20030710

L13 ANSWER 36 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN

IE, SI, LT, LV, FI, RO, MK, CY, AL

Τ

В2

- TI Powders consisting of particles with a perfectly smooth surface, for use as carriers for the preparation of inhalation mixtures with micronized drugs and method for their preparation
- AB Carriers for use in the preparation of mixts. for inhalation powders intended for pulmonary administration of micronized drugs by means of a dry powder inhaler and the method for their preparation are described. An inhalation powder of beclometasone dipropionate mixed with smoother α -lactose monohydrate carrier was prepared
- AN 2001:63851 HCAPLUS <<LOGINID::20100623>>
- DN 134:120962

JP 2003507410

AU 763041

TI Powders consisting of particles with a perfectly smooth surface, for use

as carriers for the preparation of inhalation mixtures with micronized drugs and method for their preparation

- IN Caponetti, Giovanni; Catellani, Pier Luigi; Bettini, Ruggero; Colombo, Paolo; Ventura, Paolo
- PA Chiesi Farmaceutici S.p.A., Italy
- SO PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	AN.CNT 1 PATENT NO.							DATE			APPI	ICAT	ION :		D.						
						A2				1	WO 2000-EP6690						20000713 <				
		₩:	CZ, IN,	DE, IS,	DK, JP,	DM, KE,	EE, KG,	ES, KP,	FI, KR,	GB, KZ,	GD, LC,	BR, GE, LK, PT,	GH, LR,	GM, LS,	HR, LT,	HU, LU,	ID, LV,	IL, MA,			
		RW:	SK, GH,	SL, GM,	TJ, KE,	TM, LS,	TR, MW,	TT, MZ,	TZ, SD,	UA, SL,	UG, SZ,	US, TZ, LU,	UZ, UG,	VN, ZW,	YU, AT,	ZA, BE,	ZW CH,	CY,			
	ΕP	CF, CG, CI, T 99MI1582 P 1196146 P 1196146					A2 20020417				IT 1	999-	MI15	82							
		R:	AT, IE,	BE, SI,	CH, LT,	DE, LV,	DK, FI,	ES, RO,	FR, CY	·	ĺ	IT,	•	·	·	·	·	·			
	AT ES	2000 3391 2272	91 313			T T3		2006 2007	1015 0501		AT 2 ES 2	2000- 2000-	9561 9561	80 80		2		713 713	<		
	US US	6780 2005 7399	0118 528	113		A1 B2		2005 2008	0602 0715	1	US 2	2002- 2004-									
	WO	1999 2000 2002	-EP6	690		W		2000	0716 0713 0416	<	_										
ASSIG OSC.G RE.CN		5	TH	ERE .	ARE	5 CAI	PLUS	REC	ORDS	THA'	I CI	SUS D TE T LABLE	HIS	RECO:	RD (5 CI	TING	S)			

- L13 ANSWER 37 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
- TI Pulmonary administration of dry powder formulations for treating infertility
- AB Provided are stabilized follicle stimulating protein (FSP) dry powder compns. for aerosolized delivery to the deep lung, methods of preparing and administering such compns., and methods for treating infertility involving administering the dry powders by pulmonary delivery to the deep lung.

ALL CITATIONS AVAILABLE IN THE RE FORMAT

- AN 2000:741950 HCAPLUS <<LOGINID::20100623>>
- DN 133:313613
- TI Pulmonary administration of dry powder formulations for treating infertility
- IN Nagarajan, Sudha; Patton, John S.; Bennett, David B.; Greene, Joanne; Chiang, Hi-Shi; Stults, Cheryl L. M.; Venthoye, Geraldine; Allen, Darrel Lavern; Hughes, Benjamin Lee; Stiff-Torvik, Mary; Wolff, Ronald Keith; Roeder, William David
- PA Inhale Therapeutics, Inc., USA; Eli Lilly and Company
- SO PCT Int. Appl., 125 pp. CODEN: PIXXD2
- DT Patent

```
English
LΑ
FAN.CNT 1
     PATENT NO. KIND DATE APPLICATION NO. DATE
                                                                   -----
    WO 2000061178 A1 20001019 WO 2000-US9869 20000413 <--
PΙ
         W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR,
             CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
             ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
             LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,
             SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
             DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
             CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     CA 2369262
                             20001019 CA 2000-2369262
20020109 EP 2000-920245
                         A1
                                                                   20000413 <--
                                                                  20000413 <--
     EP 1169053
                         A1
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     JP 2002541213 T 20021203
                               20021203 JP 2000-610510
20050217 AU 2000-40820
                                                                    20000413 <--
     AU 779869
                         В2
                                                                   20000413 <--
                              20070401
                                          TW 2000-89106884
US 2001-958722
     TW 277425
                        В
                                                                   20000413 <--
     US 7112341
TW 2//425
US 7112341
B1 20060926
PRAI US 1999-129121P
US 1999-130099P
WO 2000-US9869
PRAI US 20000413
                                                                   20011011 <--
                               19990413 <--
                                19990420 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
              THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)
OSC.G 6
              THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 3
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 38 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Methods and compositions for the dry powder formulation of
ТΤ
     interferons
AΒ
     Methods and compns. are provided for spray-dried, interferon-based dry
     powder compns., particularly interferon-beta. The compns. are
     useful for treating conditions in humans that are responsive to treatment
     with interferons. In particular, the methods of the present invention
     rely on spray drying to produce stable, high-potency dry powder
     formulations of interferons, including but not limited to IFN-beta.
     Surprisingly, it has been found that IFN can be prepared in high potency,
     dry powder formulations by spray drying. Such dry
     powder formulations find particular utility in the
     pulmonary delivery of IFN. Approx. 50 mL of 10 mM sodium chloride
     solution of natural human IFN-beta comprising approx. 2 mg/mL human serum
     albumin was spray dried to give a composition comprising IFN-beta 1.9, and
     carrier (75.8% human serum albumin, 22.3% NaCl) 98.1%.
     2000:680347 HCAPLUS <<LOGINID::20100623>>
ΑN
     133:256828
DN
     Methods and compositions for the dry powder formulation of
ΤI
     interferons
     Platz, Robert M.; Kimura, Shigenobu; Satoh, Yu-ichiro; Foster, Linda C.
IN
PA
     Inhale Therapeutics Systems, Inc., USA
SO
     U.S., 7 pp.
     CODEN: USXXAM
DT
     Patent
     English
LA
FAN.CNT 21
     PATENT NO.
                        KIND DATE APPLICATION NO. DATE
    US 6123936 A 20000926 US 1999-444116 19991122 <--
EP 940154 A2 19990908 EP 1999-110369 19920702 <--
EP 940154 B1 20070418
РΤ
```

```
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE
                         A2 20060823 EP 2006-9725
     EP 1693080
                                                                    19920702 <--
                         А3
                                20070725
     EP 1693080
        R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC
                       T 20070515 AT 1999-110369 19920702 <--
     AT 359842
     ES 2284226
                         Т3
                                20071101
                                           ES 1999-110369
                                                                   19920702 <--
                                           US 2002-245704
     US 20030072718
                        A1
                               20030417
                                                                   20020918 <--
PRAI US 1991-724915
                               19910702 <--
                        A
     EP 1992-914592
                        A3 19920702 <--
     EP 1999-110369
                        A3 19920702 <--
     US 1994-246034
                        B2 19940518 <--
     WO 1995-US6008
                        W
                              19950515 <--
     US 1997-737724
                        A1
                               19970714 <--
                        A1 19991122 <--
A1 20000217 <--
     US 1999-444116
     US 2000-506426
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
             THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)
OSC.G 8
RE.CNT 3
              THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 39 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
TΙ
     Pharmaceutical powders comprising particles of an amino acid
AΒ
     Particles of an amino acid such as leucine may be formed from an amino
     acid vapor, for example by aerosol condensation, or by spray drying. The
     amino acid particles have a bulk d. of not more than 0.1 gcm-3 or have a
     mass median aerodynamic diameter of not more than 10 <mm or are in the form
     of flakes having a thickness of not more than 100 <mm. The inclusion of
     the particles of amino acid in powder for use in dry
     powder inhalers has been found to improve the respirable
     fraction of the active material in the powder. Ground L-leucine
     particles were suspended from a fluidized bed by a flow of air and carried
     in a gas flow into the tube furnace, which was at a temperature ranging from
     150-300^{\circ} and sublimed. The vapor emitted from the furnace was
     mixed with cool air giving a cloud of condensed particles that were
     subsequently collected in a cyclone and membrane filter. The balk d. of
     the powder was 0.04 gcm-3. A mixture of salbutamol sulfate and 1%
     low d. leucine was prepared The powder flow and handling
     performance of the salbutamol powder was significantly improved,
     with minimal adhesion to glass walls compared with the milled leucine
     2000:401625 HCAPLUS <<LOGINID::20100623>>
ΑN
DN
    133:48937
ΤI
    Pharmaceutical powders comprising particles of an amino acid
ΤN
    Ganderton, David; Morton, David Alexander Vodden; Lucas, Paul
    Vectura Limited, UK
PΑ
SO
     PCT Int. Appl., 45 pp.
     CODEN: PIXXD2
DT
     Patent
LA
    English
FAN.CNT 1
     PATENT NO.
                       KIND
                                DATE
                                            APPLICATION NO.
                                                                    DATE
     _____
                         ____
                                _____
                                            ______
                                                                    _____

      WO 2000033811
      A2 20000615

      WO 2000033811
      A3 20001012

                                20000615
                                           WO 1999-GB4156
                                                                   19991209 <--
         W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU,
             CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
            IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI,
             SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
```

DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,

```
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
       CA 2353448 A1 20000615 CA 1999-2353448
                                                                                           19991209 <--
                                            20100223
       CA 2353448
                                   С
                                 A 20010904 BR 1999-16102 19991209 <--
A2 20011004 EP 1999-958404 19991209 <--
B1 20030514
       BR 9916102
       EP 1137399
       EP 1137399
            R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                  IE, SI, LT, LV, FI, RO
TR 2001001591 T2 20011121 TR 2001-1591 19991209 <--
HU 2001004513 A2 20020328 HU 2001-4513 19991209 <--
HU 2001004513 A3 20031229

JP 2002531487 T 20020924 JP 2000-586305 19991209 <--
JP 4410942 B2 20100210

AT 240093 T 20030515 AT 1999-958404 19991209 <--
NZ 511965 A 20030926 NZ 1999-511965 19991209 <--
PT 1137399 E 20030930 PT 1999-958404 19991209 <--
ES 2198973 T3 20040201 ES 1999-958404 19991209 <--
ES 2198973 B2 20040201 ES 1999-958404 19991209 <--
SK 284775 B6 20040219 AU 2000-15777 19991209 <--
SK 284775 B6 20030930 NX 2001-5777 19991209 <--
NX 2001005584 A 20030714 MX 2001-5584 20010604 <--
NX 2001005584 A 20030714 MX 2001-5584 20010604 <--
NX 2001002825 A 20010608 NO 2001-2825 20010607 <--
NX 6989155 B1 20060124 US 2001-857392 20011207 <--
PRAI GB 1998-27145 A 19981209 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
       TR 2001001591 T2 20011121
                                                           TR 2001-1591
                                                                                            19991209 <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 12 THERE ARE 12 CAPLUS RECORDS THAT CITE THIS RECORD (12 CITINGS)
                   THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
                   ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 40 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
       Excipient powders for inhalable drugs
ΤI
AB
       The present invention relates to inhalable drugs in particulate
       form. More specifically, the present invention is directed to an
       excipient powder that comprises a coarse first fraction having a
       particle size of \geq 10 \mum, a fine second
       fraction having a particle size of < 10 \mu m and a third
       fraction consisting of ternary agents. The excipient powder has
       been found to be beneficial in the administration of pharmaceuticals to
       the pulmonary system. A carrier formulation was prepared containing
       coarse lactose (> 80 % by mass over 50 \mum in size) 89, fine
       lactose (> 90 % by mass < 10 \mu m in size) 10, and fine
       L-leucine (> 90 % by mass < 10 \mu m in size) 1 %. The carrier
       formulation was blended with 2 % of a corticosteroid. The mean respirable
       fraction was .apprx. 60 %, compared to .apprx. 40 % for the formulation
       without L-leucine.
       2000:401604 HCAPLUS <<LOGINID::20100623>>
AN
DN 133:34444
    Excipient powders for inhalable drugs
ΤI
      Embleton, Jonathan Kenneth
ΙN
PA
       R.P. Scherer, Inc., USA
       PCT Int. Appl., 13 pp.
SO
       CODEN: PIXXD2
DT
       Patent
LA
       English
FAN.CNT 1
       PATENT NO. KIND DATE APPLICATION NO. DATE
                                 ----
                                                            _____

      WO 2000033789
      A2 20000615

      WO 2000033789
      A3 20000914

                                                           WO 1999-US28608 19991203 <--
PΙ
```

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,

```
DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
             JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
             MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
             TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
             DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
             CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     AU 2000020383
                                20000626 AU 2000-20383
                          Α
                                                                   19991203 <--
PRAI GB 1998-26783
                          Α
                                19981204 <--
     WO 1999-US28608
                          W
                                19991203 <--
              THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
              THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 41 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Enhancement of small particle size dry powder aerosol
ΤI
     formulations using an ultra low density additive
AΒ
     Low d. L-leucine was used to modify the bulk properties of salbutamol
     formulations. The potential of L-leucine to facilitate emptying of
     formulation of a model small mol. drug from a multi-dose pre-metered
     inhaler device was examined
ΑN
     1999:707291 HCAPLUS <<LOGINID::20100623>>
DN
     132:40462
ΤI
     Enhancement of small particle size dry powder aerosol
     formulations using an ultra low density additive
     Lucas, Paul; Anderson, Kerry; Potter, Ursula J.; Staniforth, John N.
ΑU
     Department of Pharmacy and Pharmacology, University of Bath, Bath, BA2
CS
     7AY, UK
SO
     Pharmaceutical Research (1999), 16(10), 1643-1647
     CODEN: PHREEB; ISSN: 0724-8741
     Kluwer Academic/Plenum Publishers
PB
     Journal
DT
     English
LA
              THERE ARE 50 CAPLUS RECORDS THAT CITE THIS RECORD (50 CITINGS)
OSC.G
        50
RE.CNT 13
              THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 42 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Aerosol composition comprising a propellant and a particulate material
ТΤ
     An aerosol composition comprising a propellant and a first particulate material
     comprising particles having a median aerodynamic diameter within the range
     0.05 to 11 \mu\text{m}, such as a medicament suitable for pulmonary
     inhalation, and a second particulate material comprising particles
     having a median volume diameter within the range 15 to 200 \mu m. The presence
     of the second particulate material provides good suspension properties,
     particularly where the propellant is a hydrofluoroalkane. An aerosol
     inhaler was prepared comprising budesonide (median particle
     size 1.89 \mum), lactose (median diam 90-63\mum) and HFA-134a. The ease
     of dispersion and suspension quality of the inhaler was assessed
     and it was good.
AN
     1999:659213 HCAPLUS <<LOGINID::20100623>>
DN
     131:276982
ΤI
     Aerosol composition comprising a propellant and a particulate material
     Dickinson, Paul Alfred; Warren, Simon John
ΙN
     University College Cardiff Consultants Limited, UK; Cardiff Scintigraphics
PA
     Limited
SO
     PCT Int. Appl., 41 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
```

```
APPLICATION NO. DATE
     PATENT NO.
                    KIND DATE
    WO 9951205 A1 19991014 WO 1999-GB1019 19990401 <--
PΤ
         W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,
              DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS,
              JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK,
             MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
              TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW
         RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK,
              ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG,
              CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     CA 2327336
                   A1 19991014
                                              CA 1999-2327336
     CA 2327336
                          С
                                 20080708
                         А
     AU 9931620
                                 19991025
                                            AU 1999-31620
                                                                       19990401 <--
     AU 761518 B2 20030605
BR 9909394 A 20001205 BR 1999-9394 19990401 <--
EP 1069887 A1 20010124 EP 1999-913508 19990401 <--
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
    JP 2002510614 T 20020409 JP 2000-541977
CN 1215832 C 20050824 CN 1999-806712
MX 2000009660 A 20030714 MX 2000-9660
ZA 2000005374 A 20020103 ZA 2000-5374
US 6737044 B1 20040518 US 2001-647331
US 20050249674 A1 20051110 US 2003-668840
US 7481995 B2 20090127
GB 1998-7232 A 19980403 <--
                                                                        19990401 <--
                                                                       19990401 <--
                                                                       20001002 <--
                                                                       20001003 <--
                                                                       20010130 <--
                                                                       20030923 <--
     GB 1998-7232 A 19980403 <--
WO 1999-GB1019 W 19990401 <--
US 2001-647331 A1 20010130 <--
PRAI GB 1998-7232
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
              THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE.CNT 5
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 43 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
     Powders for use in dry powder pharmaceutical inhalers
TI
AΒ
     A powder for use in a dry powder pharmaceutical
     inhaler comprises active material and additive material. The
     additive material comprises an anti-adherent material and the
     powder includes at least 60 % by weight of active material. The
     inclusion of the additive material in the powder has been found
     to give an increased respirable fraction of the active material. Leucine
     powder (I) (95% of which having particle size
     \leq159 \mum) 2 g and terbutaline sulfate (II) (having mass
     aerodynamic diameter of 2.1 \mum) 198 g were mixed and agglomerated using a
     milling procedure for 6 h, the agglomerated powder was then
     filled into a Turbohaler. Each metered dose contained I 5, and II 500
     1997:207747 HCAPLUS <<LOGINID::20100623>>
ΑN
    126:203732
DN
OREF 126:39307a,39310a
ΤI
     Powders for use in dry powder pharmaceutical inhalers
     Staniforth, John Nicholas
IN
PA
     Co-Ordinated Drug Development Ltd., UK; Staniforth, John Nicholas
     PCT Int. Appl., 32 pp.
     CODEN: PIXXD2
DT
    Patent
LA
    English
FAN.CNT 2
     PATENT NO.
                         KIND DATE APPLICATION NO. DATE
                         ----
     _____
                                              _____
                                                                       _____
```

A1 19970206

WO 1996-GB1783

19960724 <--

WO 9703649

PΙ

```
W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,
             EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR,
             LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,
             SD, SE
         RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR,
             IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM
     ZA 9606237
                          Α
                                19970211
                                           ZA 1996-6237
                                                                    19960723 <--
     AU 9666203
                                19970218
                                            AU 1996-66203
                                                                    19960724 <--
     EP 871430
                          Α1
                                19981021
                                            EP 1996-925828
                                                                    19960724 <--
     EP 871430
                                20031217
                          В1
     EP 871430
                          В2
                                20090909
           AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
                                19990824
                                           JP 1997-506460
     JP 11509546
                          Τ
                                                                    19960724 <--
     JP 4103939
                          В2
                                20080618
                          A2
     EP 1213012
                                20020612
                                            EP 2002-3204
                                                                    19960724 <--
     EP 1213012
                          А3
                                20021204
         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
     AT 256451
                          Τ
                                20040115
                                            AT 1996-925828
                                                                    19960724 <--
     PT 871430
                          \mathbf{E}
                                20040430
                                            PT 1996-925828
                                                                    19960724 <--
                                            ES 1996-925828
     ES 2213180
                          Т3
                                20040816
                                                                    19960724 <--
                        С
     CA 2226657
                                20090203
                                            CA 1996-2226657
                                                                    19960724 <--
     US 6475523
                         В1
                                20021105
                                            US 1998-65
                                                                    19980616 <--
                        A1
     US 20030113272
                                20030619
                                            US 2002-236070
                                                                    20020905 <--
                         A1
                                20050714
                                           US 2005-54074
     US 20050152849
                                                                   20050209 <--
PRAI GB 1995-15182
                         Α
                                19950724
                                          <--
     EP 1996-925828
                         А3
                                19960724
                                          <--
     WO 1996-GB1783
                          W
                                19960724
                                          <--
     US 1998-65
                          Α1
                                19980616
                                          <--
     US 2002-236070
                          В1
                                20020905
                                          <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OSC.G 26
              THERE ARE 26 CAPLUS RECORDS THAT CITE THIS RECORD (27 CITINGS)
RE.CNT 2
              THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
L13 ANSWER 44 OF 44 HCAPLUS COPYRIGHT 2010 ACS on STN
ΤI
     Carrier particles for use in dry powder inhalers
     A powder for use in a dry powder inhaler
     includes active particles and carrier particles for carrying the active
     particles. The powder further includes additive material on the
     surface of the carrier particles to promote the release of the active
     particles from the carrier particles on actuation of the inhaler
     . The powder is such that the active particles are not liable
     to be released from the carrier particles before actuation of the
     inhaler. The inclusion of additive material in the powder
     gives an increased respirable fraction of the active material. Lactose
     particles (particle size 90-125 \mu m) were mixed with leucine
     (diameter \leq 150 \, \mu m), then with beclomethasone dipropionate to obtain
     powders for inhalation.
AN
     1996:584137 HCAPLUS <<LOGINID::20100623>>
DN
     125:204578
OREF 125:38113a,38116a
     Carrier particles for use in dry powder inhalers
ΤI
     Staniforth, John Nicholas
IN
     Co-Ordinated Drug Development Limited, UK
PA
SO
     PCT Int. Appl., 73 pp.
     CODEN: PIXXD2
DT
     Patent
LA
     English
```

```
KIND DATE APPLICATION NO. DATE
         PATENT NO.
         WO 9623485 A1 19960808 WO 1996-GB215 19960131 <--
PΤ
                 W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE,
                         ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT,
                         LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,
                         SG, SI
                 RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE,
                         IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE
         CA 2211874 A1 19960808 CA 1996-2211874
         CA 2211874
                                                 С
                                                            20060829
         ZA 9600721
                                                            19960819
                                                                                   ZA 1996-721
                                                                                                                                  19960131 <--
                                               Α
         AU 9645456
                                               A
                                                           19960821
                                                                                AU 1996-45456
                                                                                                                                 19960131 <--
                                               B2 19981126
         AU 699131
                                             A1 19971119
B1 20031217
                                                                                   EP 1996-901439
         EP 806938
                                                                                                                                 19960131 <--
         EP 806938
                R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
        A 19971223
A 19980415
CN 1303974
CN 1513174
CN 1513174
CN 19981215
CN 19802209
CN 19802209
CN 159955
CN 15
                         IE, SI, LT, LV
                                                             19971223
                                                                                   BR 1996-7490
                                                                                                                                   19960131 <--
                                                                                 CN 1996-192676
                                                                                                                                   19960131 <--
                                                                                   JP 1996-523350
                                                                                                                                   19960131 <--
                                                                                   HU 1998-2209
                                                                                                                                   19960131 <--
                                                A3 20000628
A1 20011205 EP 2001-120610
                                                                                                                                 19960131 <--
                R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                         IE, SI, LT, LV
                                                A1 20020821
B1 20070307
                                                                                 EP 2002-7397
                                A1
         EP 1232745
                                                                                                                                   19960131 <--
         EP 1232745
                R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                         IE, SI, LT, LV
                                              В6
         SK 282630
                                                             20021008
                                                                                   SK 1997-1036
                                                                                                                                   19960131 <--
                                                T
         AT 256450
                                                           20040115 AT 1996-901439
                                                                                                                                 19960131 <--
                                  T 20040115 A1 1990-901435
B1 20040227 PL 1996-321572
E 20040531 PT 1996-901439
T3 20040816 ES 1996-901439
B6 20041110 CZ 1997-2443
A2 20060607 EP 2006-4066
A3 20090506
         PL 186757
                                                                                                                                 19960131 <--
         PT 806938
                                                                                                                                 19960131 <--
         ES 2213172
                                                                                                                                19960131 <--
         CZ 294259
                                                                                                                                 19960131 <--
         EP 1666023
                                                                                                                                  19960131 <--
         EP 1666023
                 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
                         IE, SI, LT, LV
         AT 355822
                                  Т
                                                            20070315
                                                                                 AT 2002-7397
                                                                                                                                  19960131 <--
        E
                                                          20070430 PT 2002-7397
                                                                                                                                 19960131 <--
                                                                                                                                 19960131 <--
                                                                                                                                 19970730 <--
                                                                                                                                 19970730 <--
                                                                                US 1997-875391
US 2000-680863
US 2002-306865
                                                                                                                                 19970925 <--
                                                                                                                                  20001006 <--
                                                                                                                                 20021127 <--
                                                                                  US 2005-202741 20050811 <--
PRAI GB 1995-1841
```

US 1997-875391 A1 19970925 <--US 2000-680863 A1 20001006 <--US 2002-306865 A1 20021127 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OSC.G 41 THERE ARE 41 CAPLUS RECORDS THAT CITE THIS RECORD (45 CITINGS)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT